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REPORT OF OCEANOGRAPHIC CRUISE
USCGC NORTHWIND
NORTHERN BERING SEA-BERING STRAIT—
CHUCKCHI SEA

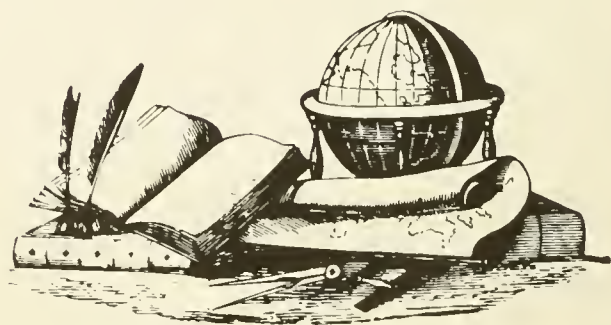
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REPORT No. 24 CG 373-24



REPORT OF OCEANOGRAPHIC CRUISE
USCGC NORTHWIND
NORTHERN BERING SEA-BERING STRAIT—
CHUCKCHI SEA

July 1967

By David M. Husby



WASHINGTON, D.C.



JUNE 1969



ABSTRACT

This report contains the observed and interpolated temperature, salinity and dissolved oxygen data plus the computed sigma-t, geopotential anomalies and sound velocities for 83 oceanographic stations occupied by the USCGC NORTHWIND (WAGB 282) in the Bering and Chukchi Seas during 12-23 July 1967. Also included are the direct current observations made at 66 of the oceanographic stations. Serial observations were made of temperature, salinity, oxygen and water flow at 5-meter intervals from the surface to near the bottom. This survey was a cooperative effort by the U.S. Coast Guard Oceanographic Unit, Washington, D.C. and the University of Washington, Seattle, Washington.

CONTENTS

	Page
Introduction	1
Personnel	1
Chronology of Events	1
Cruise Narrative	2
Data Collection	2
Weather and Ice Observations	3
Field Data Disposition	4
Data Presentation	4
Bibliography	4
Explanation of Oceanographic Station Data	5

ILLUSTRATIONS

Figure	Page
Frontispiece : USCGC NORTHWIND (WAGB 282)	
1. Positions of oceanographic stations	7
2. Boundary of ice pack, U.S. Navy Ice Chart, NAVOCEANO 15-30 day forecast, 5 July 1967.....	8
3. Ice conditions from Point Barrow, Alaska to approximately 80° N as observed from aircraft, 24 July 1967.....	9
4. Ice conditions from Icy Cape, Alaska to Barter Island, Navoceano Ice Chart, 26-30 July 1967.....	10
5. Horizontal distribution of surface temperature (°C) between section E-E' and section B-B', 12-17 July 1967.....	11
6. Horizontal distribution of surface salinity (‰) between section E-E' and section B-B', 12-17 July 1967.....	12
7. Horizontal distribution of surface temperature (°C) between section E-E' and section B-B', 18-23 July 1967.....	13
8. Horizontal distribution of surface salinity (‰) between section E-E' and section B-B', 18-23 July 1967.....	14
9. Current vectors (cm/sec) at depth of 5 meters at oceanographic stations taken 12-17 July 1967.....	15
10. Current vectors (cm/sec) at depth of 5 meters at oceanographic stations taken 18-23 July 1967.....	16
11. Cross-sections of temperature, salinity and oxygen on section E-E' 1, 12-13 July 1967.....	17
12. Cross-sections of temperature, salinity, oxygen and current speed on section D-D' 1, 13-14 July 1967.....	18-19
13. Cross-sections of temperature, salinity, oxygen and current speed on section C-C' 1, 15 July 1967.....	20-21
14. Cross-sections of temperature, salinity, oxygen and current speed on section B-B' 1, 16-17 July 1967.....	22-23
15. Cross-sections of temperature, salinity, oxygen and current speed on section E-E' II, 18-19 July 1967.....	24-25
16. Cross-sections of temperature, salinity, oxygen and current speed on section D-D' II, 19-20 July 1967.....	26-27
17. Cross-sections of temperature, salinity, oxygen and current speed on section C-C' II, 20-21 July 1967.....	28-29
18. Cross-sections of temperature, salinity, oxygen and current speed on section B-B' II, 22-23 July 1967.....	30-31

TABLES

	Page
I. Weather observations.....	32
II. Physical and chemical oceanographic data from all stations.....	33
III. Direct current observations.....	61

Oceanographic Cruise of USCGC NORTHWIND, Northern Bering Sea-Bering Strait—Chukchi Sea

By David M. Husby

Introduction

This report contains the oceanographic data obtained on the cruise of the USCGC NORTHWIND (WAGB 282) from 8–30 July 1967 in the northern Bering Sea-Bering Strait-Chukchi Sea area. The oceanographic survey was a joint U.S. Coast Guard-University of Washington project with the purpose of providing information on: (1) the circulation and interaction of the water masses of the northern Bering and Chukchi Seas for the peak summer period; (2) the flow regime in Bering Strait, its short-term variations and possible causes; (3) the exchange of water, salt and heat between the Bering and Chukchi Seas during summer, and (4) the tidal wave pattern in the northern Bering and Chukchi Seas.

All physical and chemical data collected aboard the USCGC NORTHWIND during the 8–30 July 1967 period are contained in this report as well as all the direct current observations made by the University of Washington personnel on the 83 oceanographic stations. This report also includes a discussion of methods used in collecting and processing the data, plots of vertical and horizontal distribution of the various water properties measured and a tabulation of the physical and chemical data.

Personnel

CAPTAIN J.F. PHAIR, U.S. Coast Guard, Commanding Officer, USCGC NORTHWIND (WAGB 282).

The following personnel were associated with the data collected aboard the USCGC NORTHWIND:

U.S. Coast Guard Oceanographic Unit:

DAVID M. HUSBY, Field Party Chief.
DONALD A. HAAGENSEN, Oceanographer.
PETER SAN JULE, Aerographer Second Class.

University of Washington:

JERRY A. GALT, Senior Scientist.
J. ROSENBERG.
L. LAYMAN.
P. JOPPA.

Military (stationed aboard USCGC NORTHWIND):

CDR S. S. BECKWITH, U.S. Coast Guard, Executive Officer and Scientific Coordinator.

ENS A. W. LONGACRE, U.S. Coast Guard, Oceanography Officer.
SEAMAN R. EDWARDS.

Chronology of Events

The events listed below were taken from the ship's cruise report. The locations of the oceanographic stations are shown in figure 1.

<i>Date 1967</i>	<i>Event</i>
15 June	USCGC NORTHWIND (WAGB 282) departed Seattle, Wash. enroute Bering Sea on 1967 Arctic West Patrol.
8 July	Arrived U.S. Coast Guard LORAN Station, Port Clarence, Alaska, embarked scientific party.
10 July	Placed water level pressure gauge on bottom at position 67°04'N, 171°12'W.
11 July	Anchored first current meter array in position 66°36'N, 168°15'W.
12 July	Anchored second current meter array in position 64°55'N, 168°39'W.

<i>Date 1967</i>	<i>Event</i>
12 July	Arrived at first oceanographic station in position 65°01'N, 171°34'W.
17 July	Completed station 42 and first occupation of sections E-E', D-D', C-C' and B-B'. Enroute section E-E' for re-occupation.
19 July	Completed re-occupation of section E-E'.
23 July	Completed re-occupation of section B-B' with the exception of one station; ship at position 67°15'N, 170°48'W. Enroute Point Barrow to assist CSS RICHARDSON, trapped in 10/10 concentration of thick winter ice.
26 July	Completed RICHARDSON SAR case. Enroute southern Chukchi Sea to recover tidal gauge.
28 July	Retrieved tidal gauge and two anchored current meter arrays with little difficulty. Enroute Port Clarence, Alaska.
29 July	Arrived Port Clarence and disembarked scientific party.

Cruise Narrative

The oceanographic phase of the USCGC NORTHWIND 1967 Arctic West Patrol began with the embarkation of seven scientific personnel at the U.S. Coast Guard LORAN Station, Port Clarence, Alaska on 8 July 1967. The ship then steamed north to the position 67°04'N, 171°12'W off the northern Siberian coast to install a recording water level gauge on the sea bottom. This gauge was one of six such instruments anchored by the University of Washington during the survey period at various locations in the Chukchi Sea-Bering Sea area to monitor the tidal oscillations. On 11 and 12 July two buoys with current meter arrays attached were anchored in the positions 66°36'N, 168°15'W and 64°55'N, 168°39'W. Each buoy marked the location of two Braincon Type 316 Histogram Current Meters at depths of about 13 and 25 meters. These meters utilize a Savonius Rotor as a current speed sensor and current direction is sensed by complete instrument pressure case orientation to flow. Three of the four meters recorded continuously over the entire observational period from 12 July to 29 July.

Between 12 July and 23 July the USCGC NORTHWIND occupied 83 oceanographic stations comprising two occupations of the four sections shown in figure 1. The ship anchored at each of these stations and the water properties of temperature, salinity, and dissolved

oxygen were measured as well as making direct current measurements. The oxygen data are incomplete for section D-D' due to a shortage of sample bottles and the close station spacing.

On 23 July the USCGC NORTHWIND was diverted from the survey to assist in the rescue of the CSS RICHARDSON trapped in thick winter ice five miles northwest of Point Barrow. After the rescue mission the USCGC NORTHWIND returned to the survey area on 28 July and recovered the water level gauges and the two current meter arrays. The oceanographic field party was disembarked at Port Clarence on 29 July completing one of the most successful surveys of the Bering Strait current regime to date.

Data Collection

Personnel from the U.S. Coast Guard Oceanographic Unit (CG Oceanographic Unit) conducted Nansen bottle casts at each station, taking observations from the surface to near the bottom at 5-meter intervals. A total of 83 oceanographic stations were occupied. The Nansen bottles were equipped with two protected reversing thermometers, mainly of Yoshino Keike manufacture. Shoal water in the Bering Sea area precluded the use of unprotected thermometers. Water depth rarely exceeded 50 meters. The Nansen bottles were allowed to sit at the desired depths for a minimum of six minutes before being reversed.

Upon retrieval of the cast, water samples were drawn immediately for the dissolved oxygen analyses. The method used was a modified Winkler determination involving the titration of an aliquot portion of the treated sample with sodium thiosulfate using starch as an endpoint indicator.

Salinity samples were drawn from each Nansen bottle and determinations run at least every fourth station. Salinities were determined using the Model 6220 inductive salinometer manufactured by the Bissett-Berman Corporation. This instrument has an accuracy stated by the manufacturer of $\pm .003\%$. At least two determinations were made on each sample.

Temperature, salinity and oxygen data were processed by personnel at CG Oceanographic Unit, Washington, D.C. Corrected data were recorded on form NHO/NODC-3167/1(1-61),

Physical and Chemical Data form for oceanographic stations, and delivered to the National Oceanographic Data Center (NODC). These data are listed by NODC as Ref. No. 31-1089 NW.

The field party from the University of Washington made direct measurements of currents from 5 meters to near the bottom at 5-meter intervals at each station. Current velocity and direction were measured by the Kelvin-Hughes Direct Reading Current Meter. The ship was anchored at each station when the meter was operating and the ship's magnetic heading was recorded. The meter was inoperative on the first line of stations due to a faulty termination between the conducting cables and the deck read-out. Current measurements were made on a total of 66 stations. All current data were processed at the University of Washington Department of Oceanography.

Mechanical bathythermograph lowerings were made on all 83 oceanographic stations by the ship's personnel. The slides and completed logs were submitted to the NODC for final processing.

A continuous sounding program was undertaken during the survey utilizing an AN/UQN-1C echo sounder. However, routine electronic failures hampered full-time use of the echo sounder, along with several instances when the instrument was needed on the bridge for navigation purposes and no soundings were obtained. The bottom profiles are included in the vertical profiles of temperature, salinity, oxygen, and current velocity.

Weather and Ice Observations

Weather

Surface observations were taken at the rate of four per day at 0000, 0600, 1200 and 1800 hrs. GMT. These regular surface observations were transmitted to the appropriate weather stations. No upper air observations were taken during the survey. Four bathythermograph observations were taken daily in conjunction with the six-hourly surface observations. In addition, bathythermograph observations were taken on each oceanographic station.

Sea surface temperature observations were taken on the odd hours, 24 hours per day, in support of the Antisubmarine Warfare Environmental Prediction System (ASWEPS).

One collective sea surface temperature message was transmitted daily after the 2300 GMT observation to Fleet Weather Central, Pearl Harbor. A summary of the 147 recorded and transmitted surface observations is given in Table 1.

In general, in summer when low pressure cells move into the Bering Sea, they occasionally continue northward, then eastward following the coast of Alaska. The air which moves in from the northeast is relatively moist having picked up some moisture from the Arctic Ocean. This airflow frequently causes widespread low level cloudiness. During the survey period this cloudiness was very prevalent, nearly 90% of the time. Fog was also very common with a 35% occurrence. In general there was good visibility with light winds and calm seas despite the low level cloudiness. The average air temperature on station for the first occupation of the four sections was 46°F. For the second occupation the average air temperature on station was 45°F. The lowest air temperature recorded during the survey was 39°F on the second occupation of section E-E'.

Ice Conditions

No ice was encountered in the survey area since the southern boundary of the ice pack during the entire period was about 70°N (figure 2). Figure 2 is a reproduction of a U.S. Navy Ice forecast received by facsimile from Fleet Weather Central, Kodiak, Alaska. The USCGC NORTHWIND encountered the first ice of the cruise off Wainwright, Alaska on 23 July while on the rescue mission to save the Canadian vessel CSS RICHARDSON trapped north of Point Barrow. Scattered brash ice increased in concentration becoming 10/10 coverage of thick winter ice by midnight. Some young polar ice was observed from time to time. Figure 3 shows the ice conditions from Point Barrow to approximately 80°N on 24 July as a result of a U.S. Navy ice observer flight from the Arctic Research Laboratory, Point Barrow, Alaska.

Ice observations were made at six-hourly intervals when the USCGC NORTHWIND was in sight of or operating in ice. Ice observations were taken at 0000, 0600, 1200 and 1800 hrs. GMT in conjunction with the surface weather observations. Several ice reconnaissance flights

were flown by the ship's helicopters with R. A. LINDSAY, AGC, as ice observer. The observations during these flights together with the ice observations made during U.S. Navy flights were used to prepare the chart of figure 4 showing the ice conditions of 26-30 July from Point Barrow eastward to Barter Island.

Field Data Disposition

1. U.S. Coast Guard Oceanographic Unit, Washington, D.C.
 - (a) Temperature
 - (b) Salinity
 - (c) Oxygen
2. University of Washington, Seattle, Washington
 - (a) Direct current measurements
 - (b) Water level measurements
3. U.S. Naval Oceanographic Office, Washington, D.C.

- (a) Fathometer traces
4. National Oceanographic Data Center, Washington, D.C.
 - (a) Mechanical BT logs and slides

Data Presentation

The temperature and salinity distributions at the surface for the two occupations of the sections are shown in figures 5-8. These figures were prepared making the assumption of quasi-synoptic observations. Figure 9 and 10 are representations of the mean current vectors at 5 meters from direct measurement at each oceanographic station taken nearly simultaneously with the physical and chemical observations. Vertical profiles of temperature, salinity, oxygen and current speed for each section are included in this report along with the bottom profiles (figures 11-18). The vertical exaggeration for these cross sections is 1798:1.

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- LaFond, E. C. and D. W. Pritchard. 1952. Physical Oceanographic Investigation in the Eastern Bering and Chukchi Seas during the summer of 1947, *J. Mar. Res.*, 11 (1): 69-86.
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EXPLANATION OF OCEANOGRAPHIC STATION DATA

A. Description of Entries, Units and Codes on NODC Station Listing

1. Surface Observations

<i>Entry</i>	<i>Description of Field</i>
NODC REF. ID. NO.	NODC reference identity number.
COUNTRY CODE	Indicates nationality of the institute or agency conducting the survey or expedition.
CRUISE NUMBER	A reference number assigned by NODC for storage-retrieval purposes. NODC Publication C-1, <i>Reference Sources of Oceanographic Station Data</i> , gives complete bibliographic and other pertinent information for each cruise.
SHIP CODE	Alphabetic representation of ship's name (or ICES numeric ship code).
LATITUDE	Degrees, minutes, and tenths of minutes, N. or S.
LONGITUDE	Degrees, minutes, and tenths of minutes, E. or W.
DRIFT INDICATOR	The letter D appears in this column if extensive drift occurred while on station.
MARSDEN SQUARE:	
10°	Marsden square number according to the Marsden square system.
1°	The one-degree square number according to the Marsden square system.
STATION TIME:	
(GMT)	Date and time given by the originator. (GMT).
MONTH	Month (GMT)
DAY	Day (GMT).
HR. 1/10	GMT to nearest tenth of an hour.
YEAR	Year.
ORIGINATOR'S CRUISE NUMBER	Alphabetic or alpha-numeric designator as assigned by the originator. If the year of the cruise forms part of the cruise numbering system, the year digits are found in preceding field.
STATION NUMBER	Originator's station number or designator.
DEPTH TO BOTTOM	Corrected or uncorrected sounding depth in meters.
MAX. DEPTH OF SAMPLES	Depth of deepest sample in hundreds of meters to nearest hundred-meter interval.
WAVE OBSERVATIONS:	
DIR.	Direction from which the dominant waves are coming, in tens of degrees, according to WMO Code 0885.
HGT.	Height of dominant waves according to WMO Code 1555.
PER.	Period of dominant waves according to WMO Code 3155.
SEA AMT.	Sea amount (sea state) according to WMO Code 3700 (preceded by the letter A).
WEATHER CODE	If preceded by the letter X, weather according to WMO Code 4501. A numeric two-digit entry indicates weather according to WMO Code 4677.
*INSTR./CLOUD	This field is used either for recording instrument code when electronically obtained data are being reported, or for reporting cloud type and cloud amount when conventional Nansen cast data are being reported.
*INSTR.	A two character code representing instrument package of system.
TYPE	Cloud type according to WMO Code 0500.
AMT.	Cloud amount according to WMO Code 2700.
NODC STATION NUMBER	Assigned by NODC for data storage and retrieval purposes. The NODC Reference Identity and Station numbers combined, uniquely define each station in the NODC archives.
*DT/*SU/D	This indicator specifies that the reported data have been obtained electronically rather than by Nansen-type casts. U (up) and D (down) are cast indicators for electronically obtained serial data and specify that the data were taken while hoisting or lowering respectively.
WATER COLOR	Water color according to Forel-Ule Code.

<i>Entry</i>	<i>Description of Field</i>
TRANS. (m)	Water transparency in meters as determined by Secchi disc.
WIND:	
DIR.	Direction from which wind is blowing in tens of degrees, according to WMO Code 0877.
SPEED OR FORCE	If preceded by letter S, wind speed in knots; if preceded by letter F, wind force in Beaufort code.
BAROMETER (mbs)	Barometric pressure in millibars; tens, units, and tenths places only.
AIR TEMPERATURE	
°C:	
DRY BULB	Dry bulb air temperature in degrees centigrade, to tenths.
WET BULB	Wet bulb air temperature in degrees centigrade, to tenths.
VIS CODE	Visibility according to WMO Code 4300
NUMBER OBS. LEVEL	The number of observed levels associated with the station.
SPECIAL	Entries in this space vary with individual cruises or stations. Information concerning
OBSERVATIONS	entries in this field can be requested from the NODC.

2. A complete description of the codes can be found in NODC publication M-2 (Rev. August 1964), "Processing Physical and Chemical Data from Oceanographic Stations."

Publications of U.S. Coast Guard Oceanographic Unit Relating to Arctic Research

CG 373-1—Gladfelter, W. H. et al (1964) Oceanographic Cruise USCGC NORTHWIND, Bering and Chukchi Seas, July–September 1962.

CG 373-5—Franceschetti, A. P., D. A. McGill, N. Corwin and Elazar Uchupi (1964) Oceanographic Observations, Kennedy Channel, Kane Basin, Smith Sound and Baffin Bay, Summer 1963.

CG 373-6—Gladfelter, W. H., et al (1965) Oceanographic Cruise, USCGC NORTHWIND, Chukchi,

East Siberian, and Laptev Seas, August–September 1963.

CG 373-12—Kollmeyer, R. C., et al (1967) Oceanography of the Labrador Sea in the vicinity of Hudson Straits in 1965.

CG 373-16—Palfrey, K. M. (1968) Oceanography of Baffin Bay and Nares Strait in the Summer of 1966.

CG 373-24—Husby, D. M. (1969) Report of Oceanographic Cruise, USCGC NORTHWIND, Northern Bering Sea-Bering Strait-Chukchi Sea, July 1967.

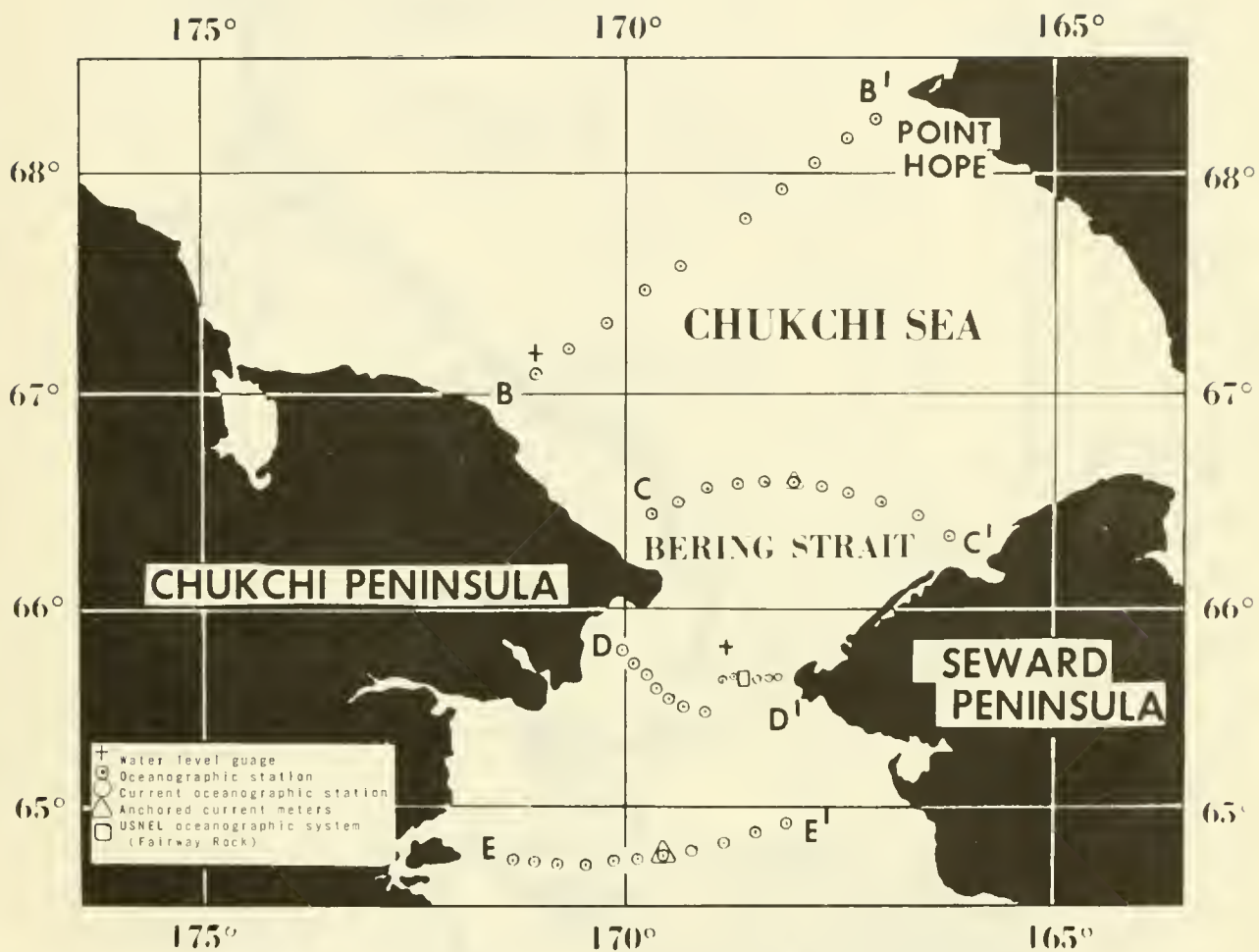


Figure 1. Oceanographic stations occupied by the USCGC NORTHWIND in the Bering and Chukchi Seas, 12-23 July 1967.

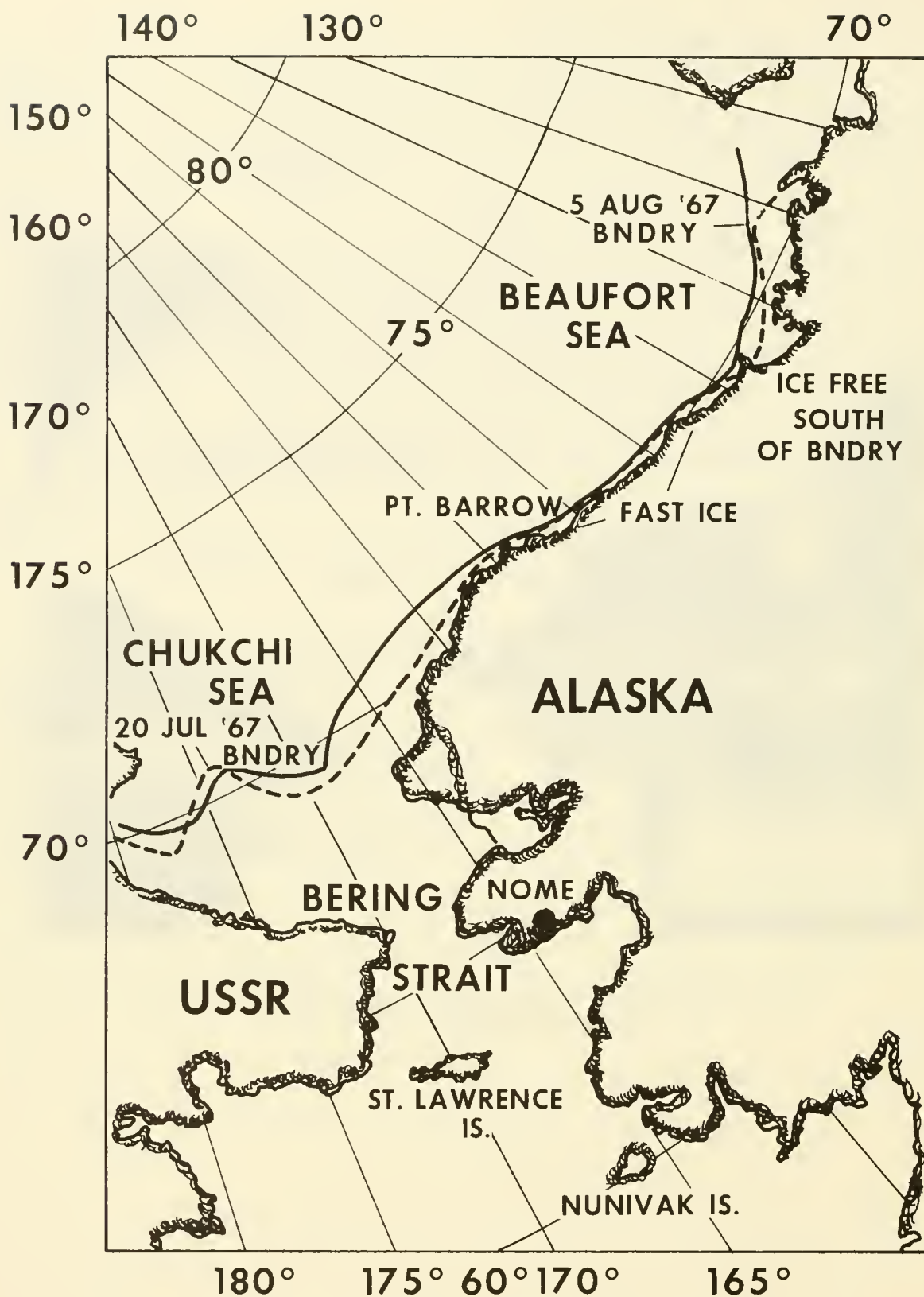


Figure 2. U. S. Navy Ice Chart from Fleet Weather Central, Kodiak, Alaska, 5 July 1967, NAVOCEANO 15-30 day forecast (boundary for 20 July and 5 August 1967.)



Figure 4. NAVOCEANO Ice Chart, 26-30 July 1967 from Icy Cape, Alaska to Barter Island (conditions along coastline).



Figure 5. Horizontal distribution of surface water temperature ($^{\circ}\text{C}$) on first occupation of the four oceanographic sections, 12-17 July 1967.

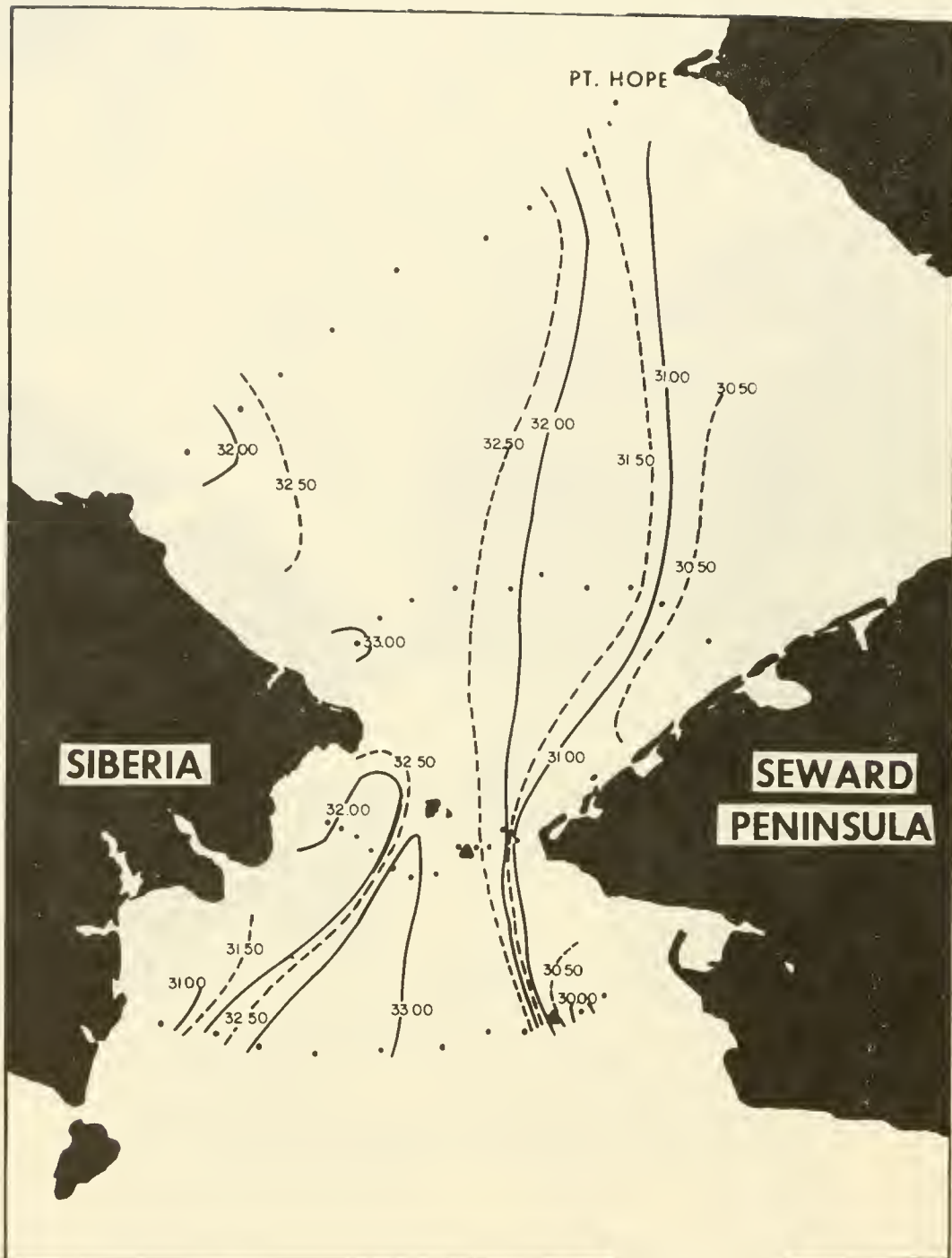


Figure 6. Horizontal distribution of surface salinity ($^{\circ}/_{00}$) in first occupation of the four oceanographic sections, 12-17 July 1967.

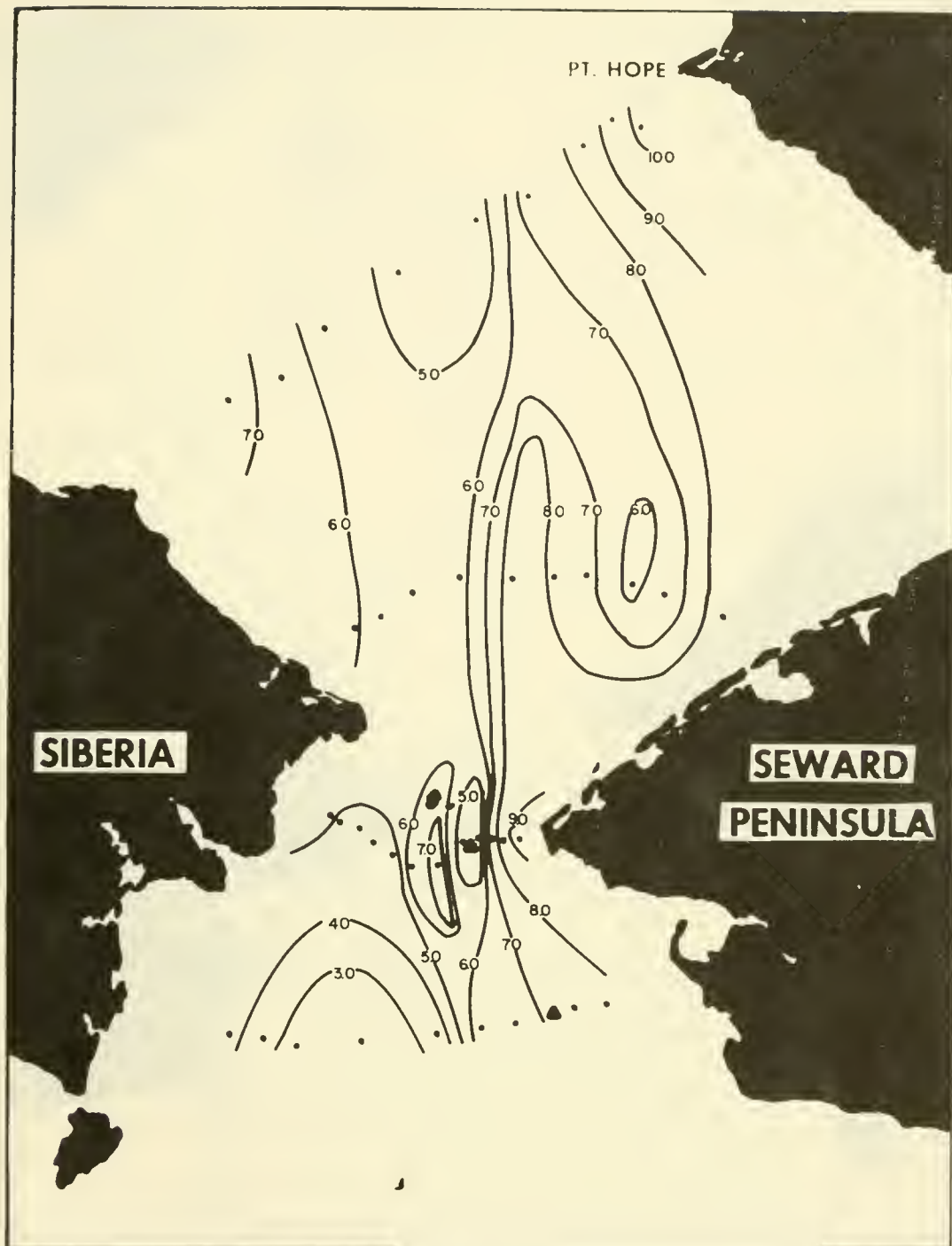


Figure 7. Horizontal distribution of surface water temperature ($^{\circ}\text{C}$) on second occupation of the four oceanographic sections, 18-23 July 1967.

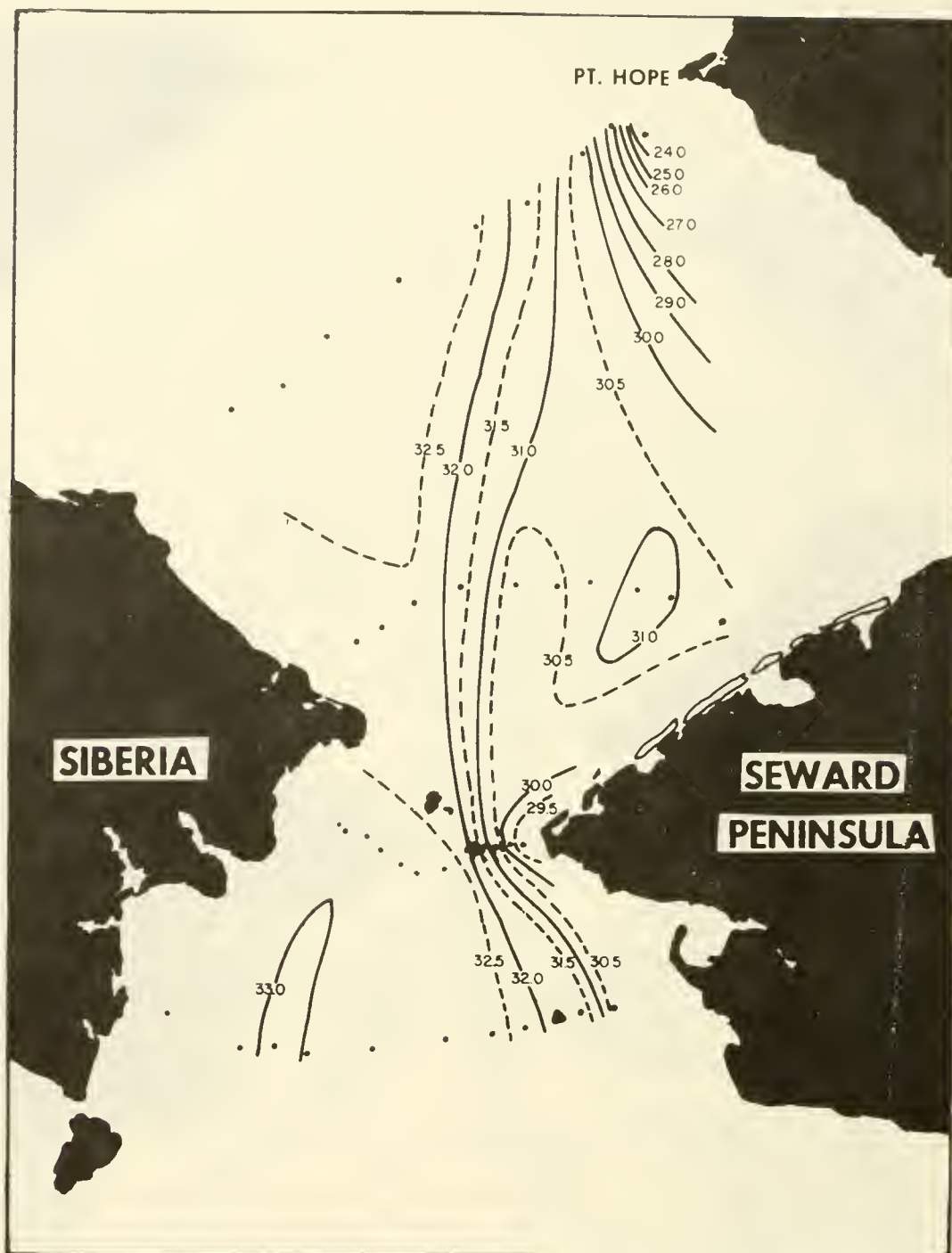


Figure 8. Horizontal distribution of surface salinity (‰) on second occupation of the four oceanographic sections, 18-23 July 1967.



Figure 9. Mean current vectors, direction in degrees true and magnitude in centimeters per second, at depth of 5 meters, based on average of two readings taken on oceanographic stations occupied between 12-17 July 1967. Numerals indicate magnitude of current.



Figure 10. Mean current vectors, direction in degrees true and magnitude in centimeters per second, at depth of 5 meters; based on average of two readings taken on oceanographic stations occupied between 18-23 July 1967. Numerals indicate magnitude of current.

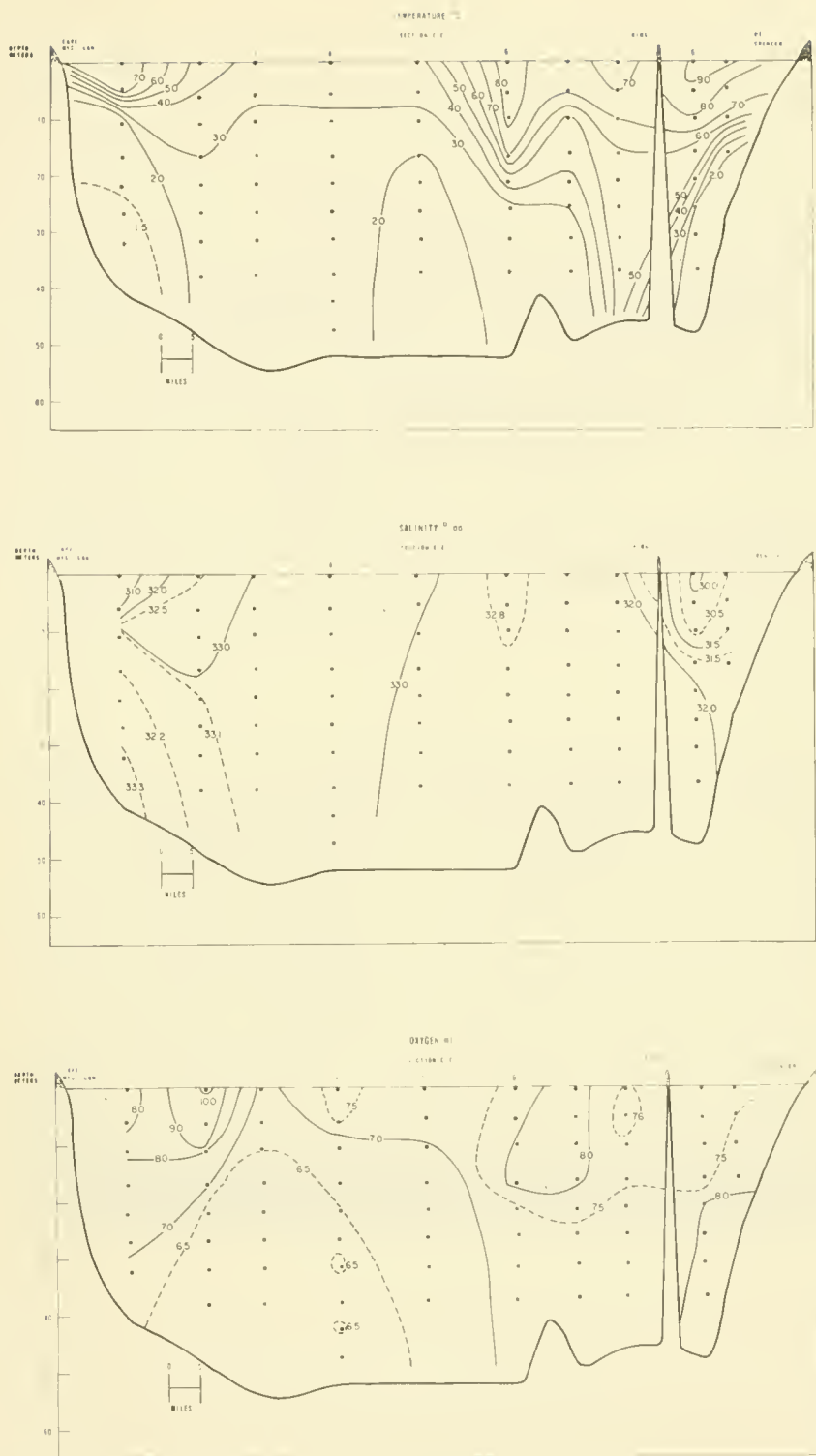


Figure 11. Cross-sections of (a) temperature (b) salinity and (c) oxygen on section E-E' from USCGC NORTHWIND data of 12-13 July 1967. Points indicate observed values. Distances between Cape Nygigan and station 1 and between station 10 and Point Spencer have been exaggerated.

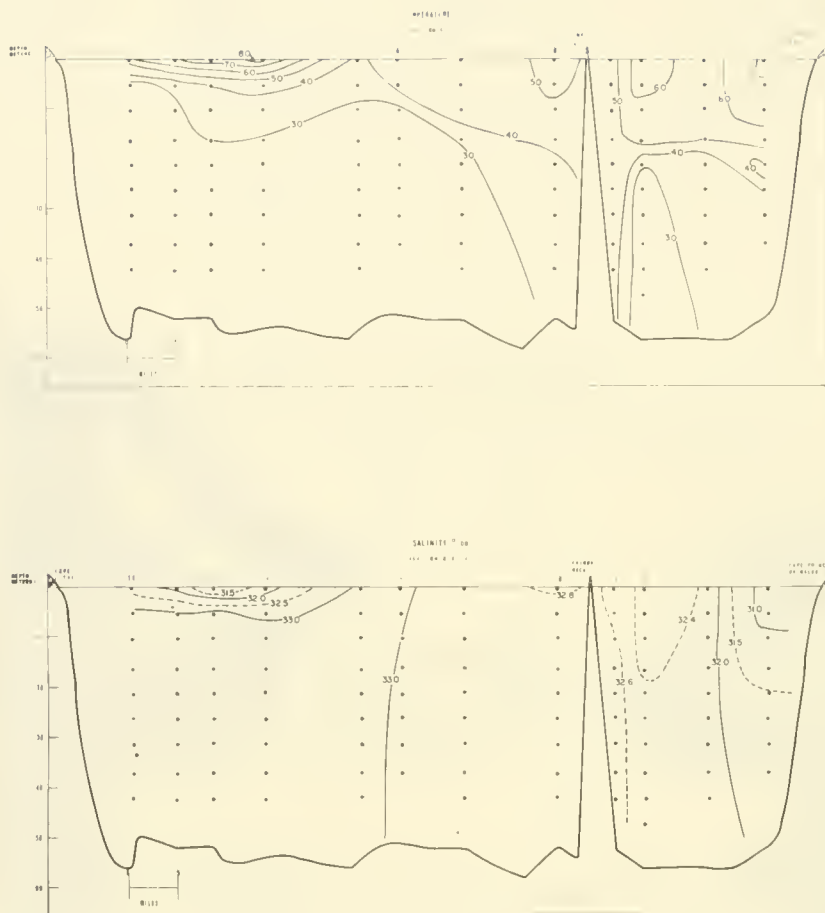


Figure 12 (a) (b). Cross-sections of temperature and salinity on section D-D' from USCGC NORTHWIND data of 13-14 July 1967. Points indicate observed values. Distances between Cape Litke and station 11 and between station 22 and Cape Prince of Wales have been exaggerated.

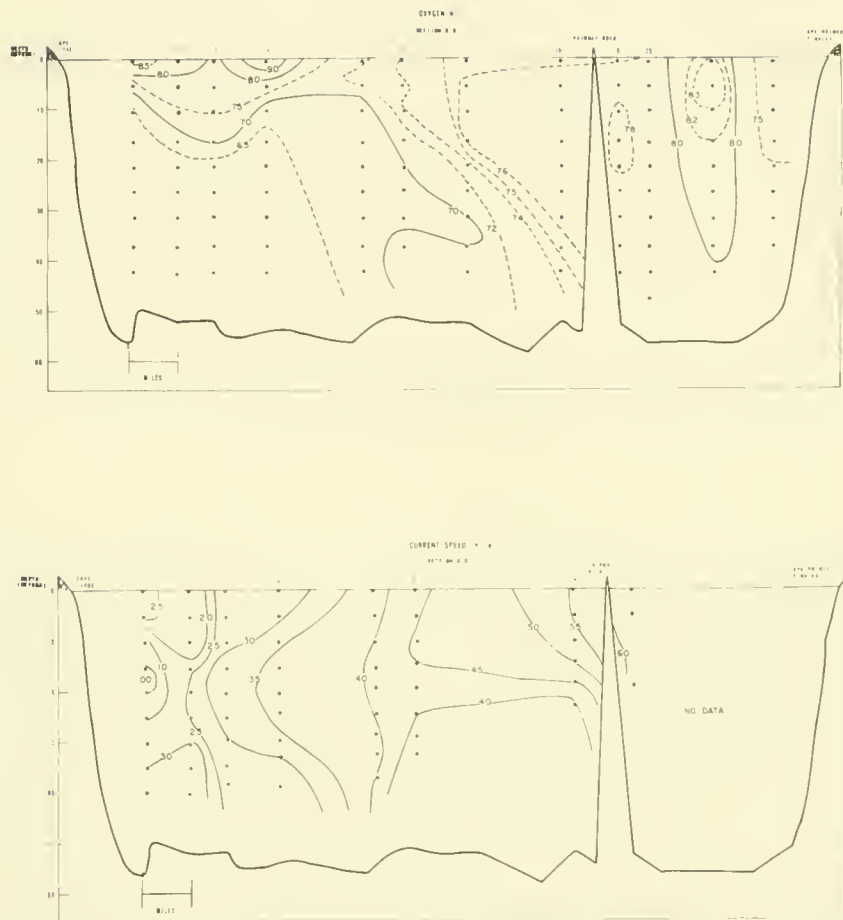


Figure 12 (c), (d). Cross-sections of oxygen and current speed on section D-D' from USCGC NORTHWIND data of 13-14 July 1967. Points indicate observed values. Distances between Cape Litke and station 11 and between station 22 and Cape Prince of Wales have been exaggerated.

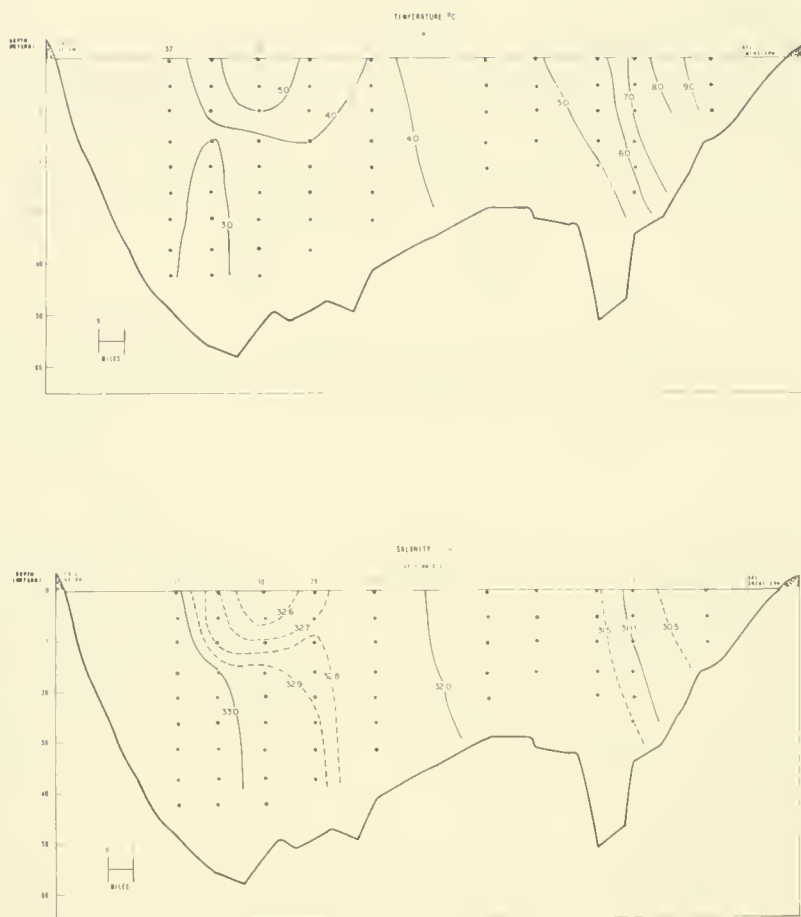


Figure 13 (a), (b). Cross-sections of temperature and salinity on section C-C' from USCGC NORTHWIND data of 15 July 1967. Points indicate observed values. Distances between Cape Ulen and station 32 and between station 23 and Cape Lowenstern have been exaggerated.

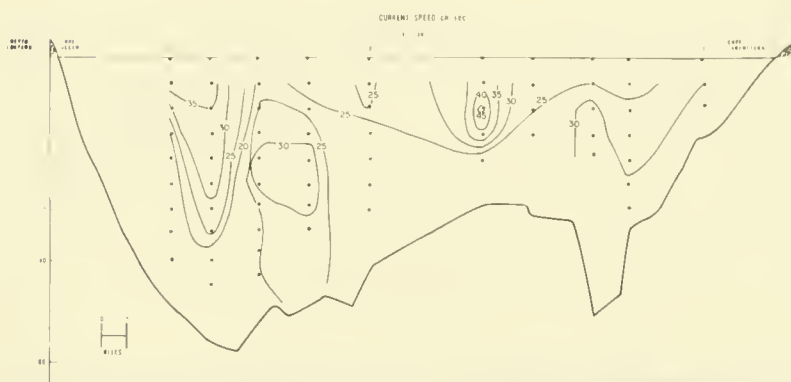
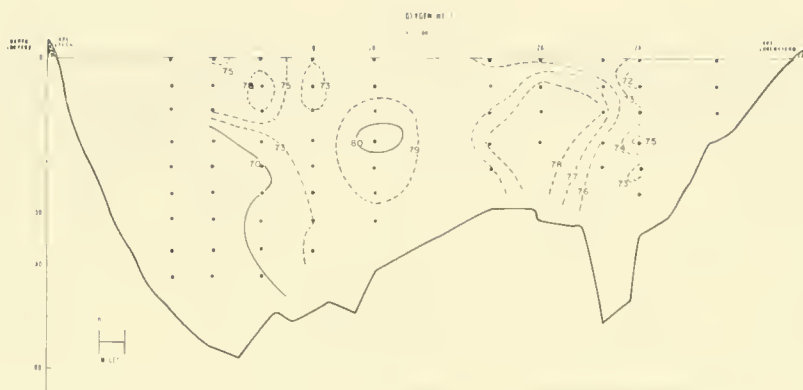


Figure 13 (c), (d). Cross-sections of oxygen and current speed on section C-C' from USCGC NORTHWIND data of 15 July 1967. Points indicate observed values. Distances between Cape Uelen and station 32 and between station 23 and Cape Lowenstern have been exaggerated.

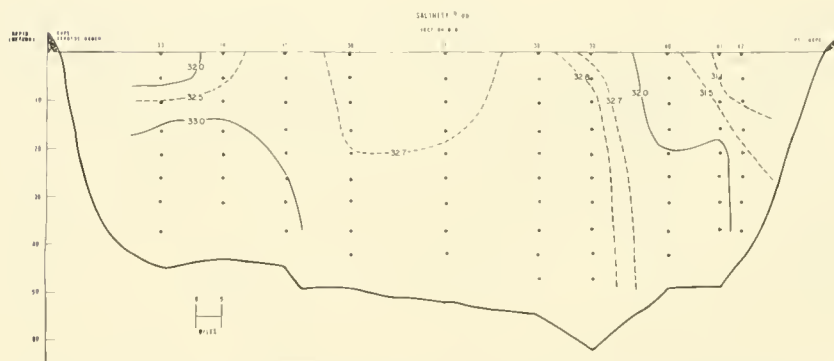
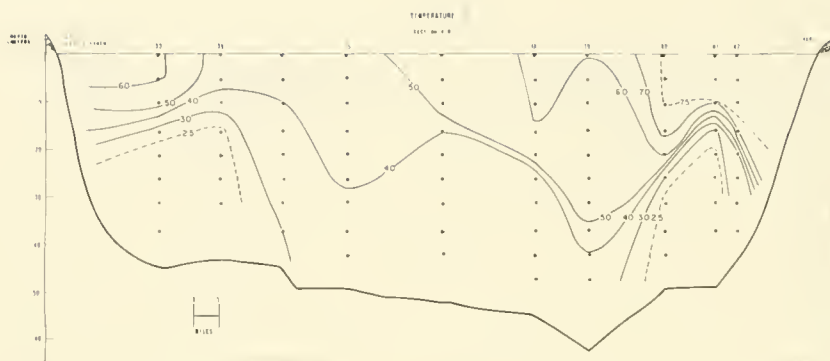


Figure 14 (a), (b). Cross-sections of temperature and salinity on section B-B' from USCGC NORTHWIND data of 16-17 July 1967. Points indicate observed values. Distances between Cape Serdtse-Kamen and station 33 and between station 42 and Point Hope have been exaggerated.

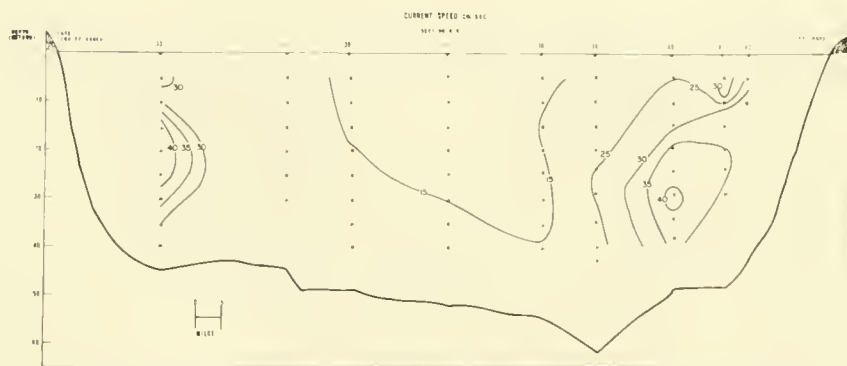
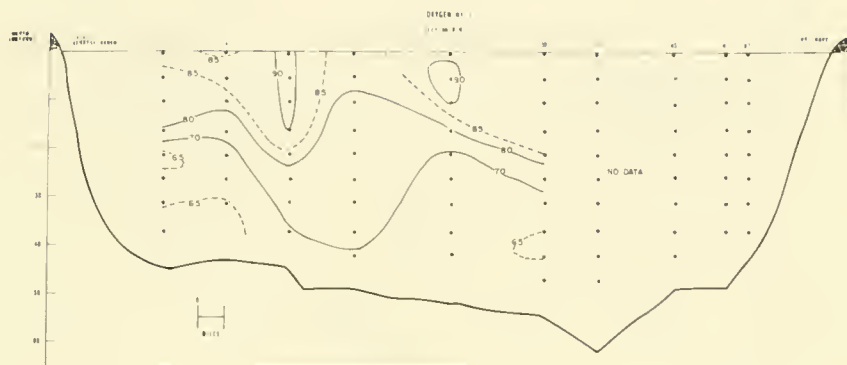


Figure 14 (c), (d). Cross-sections of oxygen and current speed on section B-B' from USCGC NORTHWIND data of 16-17 July 1967. Points indicate observed values. Distances between Cape Serdtse-Kamen and station 33 and between station 42 and Point Hope have been exaggerated.

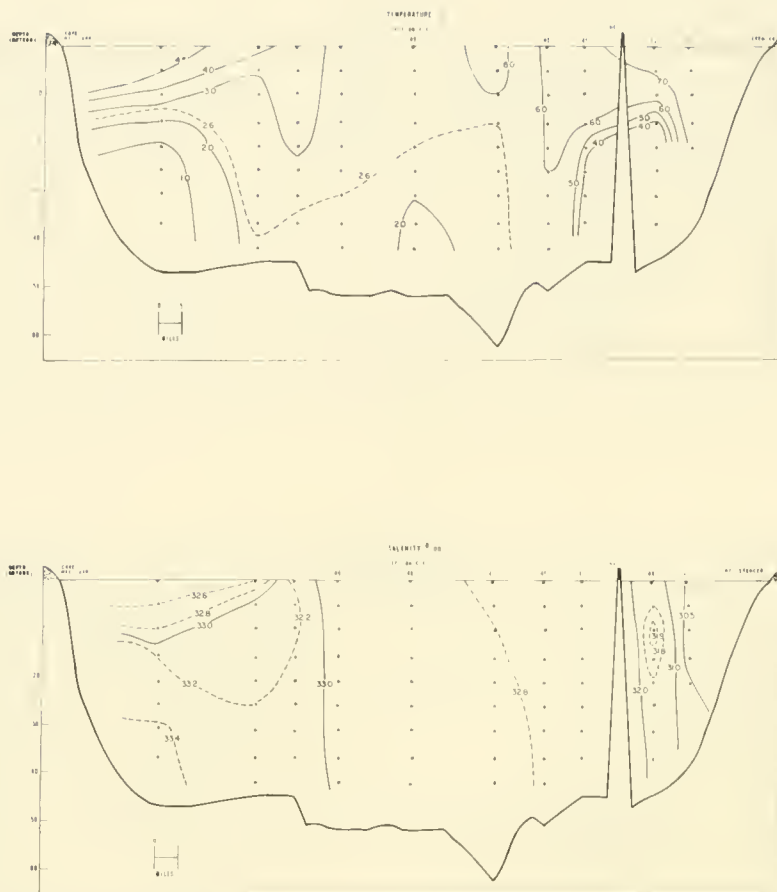


Figure 15 (a), (b). Cross-sections of temperature and salinity on section E-E' from USCGC NORTHWIND data of 18-19 July 1967. Points indicate observed values. Distances between Cape Nygligan and station 52 and between station 43 and Point Spencer have been exaggerated.

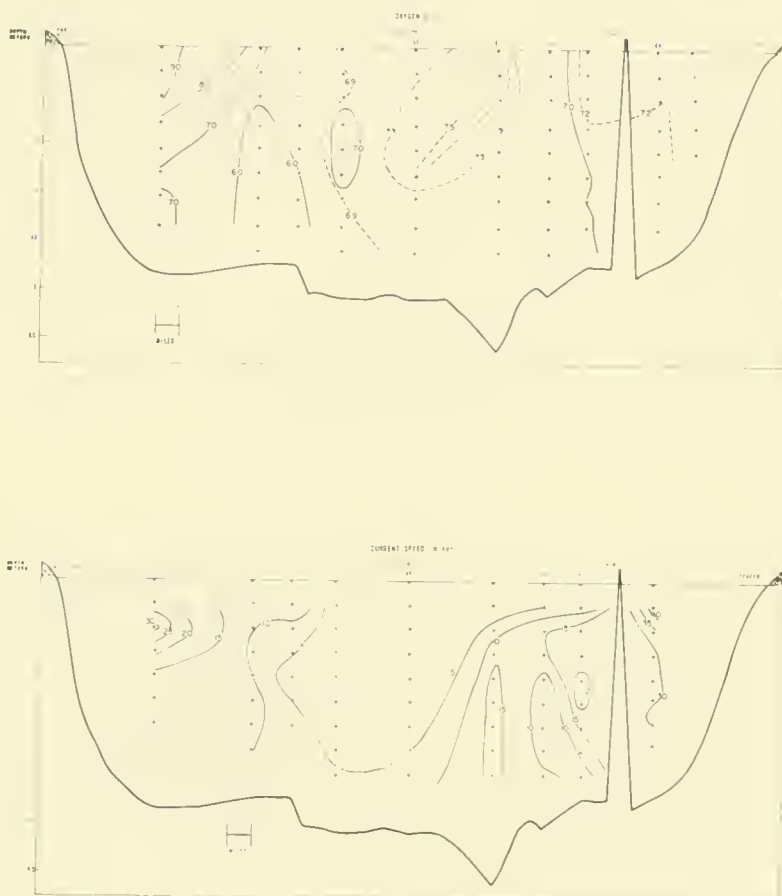


Figure 15 (c). (d). Cross-sections of oxygen and current speed on section E-E' from USCGC NORTHWIND data of 18-19 July 1967. Points indicate observed values. Distances between Cape Nygligan and station 52 and between station 43 and Point Spencer have been exaggerated.

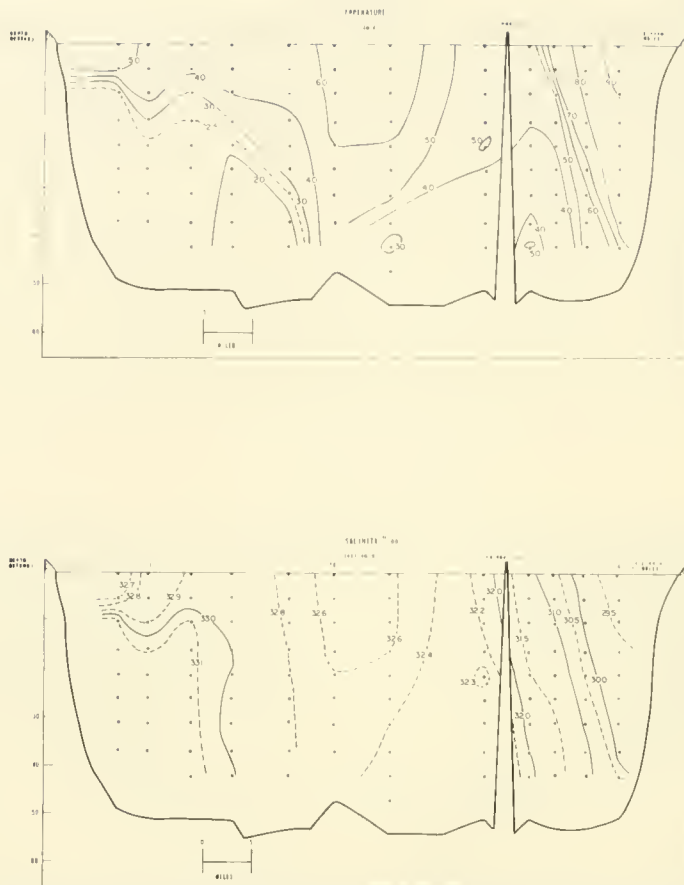


Figure 16 (a), (b). Cross-sections of temperature and salinity on section D-D' from USCGC NORTHWIND data of 19-20 July 1967. Points indicate observed values. Distances between Cape Litke and station 53 and between station 64 and Cape Prince of Wales have been exaggerated.

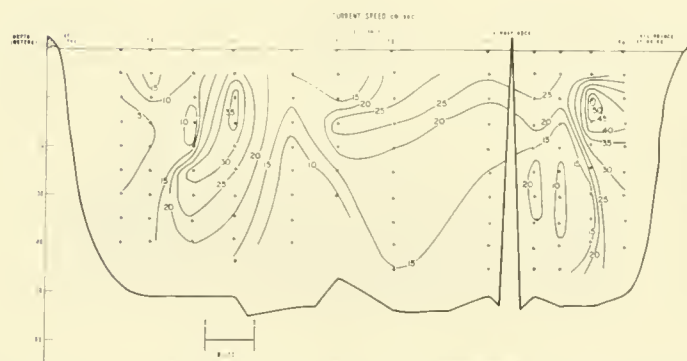
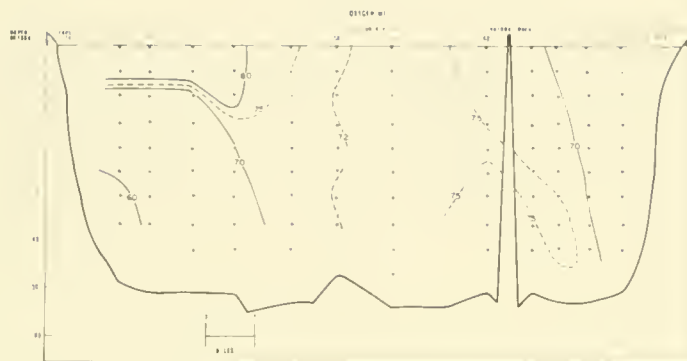


Figure 16 (c). (d). Cross-sections of oxygen and current speed on section D-D' from USCGC NORTHWIND data of 19-20 July 1967. Points indicate observed values. Distances between Cape Litke and station 53 and between station 64 and Cape Prince of Wales have been exaggerated.

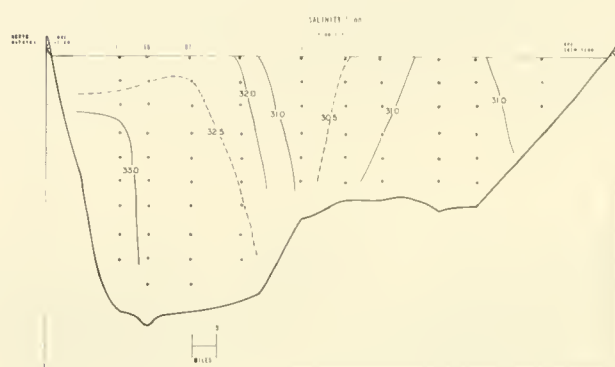
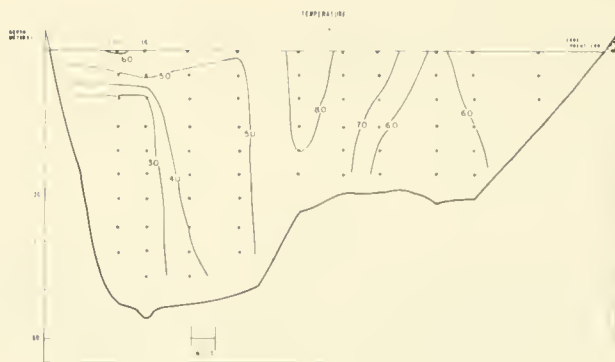


Figure 17 (a), (b). Cross-sections of temperature and salinity on section C-C' from USCGC NORTH-WIND data of 20-21 July 1967. Points indicate observed values. Distances between Cape Uelen and station 65 and between station 74 and Cape Lowenstern have been exaggerated.

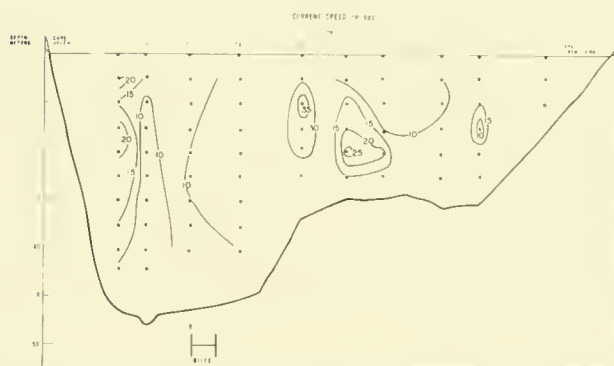
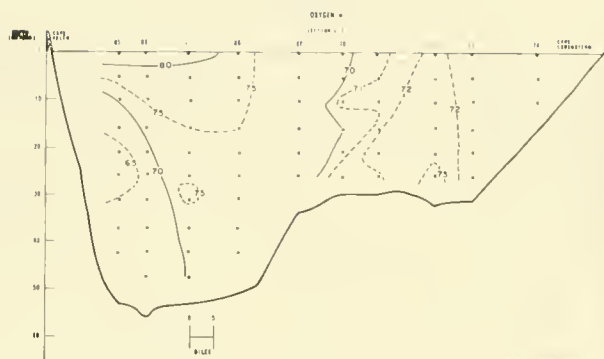


Figure 17 (c), (d). Cross-sections of oxygen and current speed on section C-C' from USGCG NORTH-WIND data of 20-21 July 1967. Points indicate observed values. Distances between Cape Uelen and station 65 and between station 74 and Cape Lowenstern have been exaggerated.

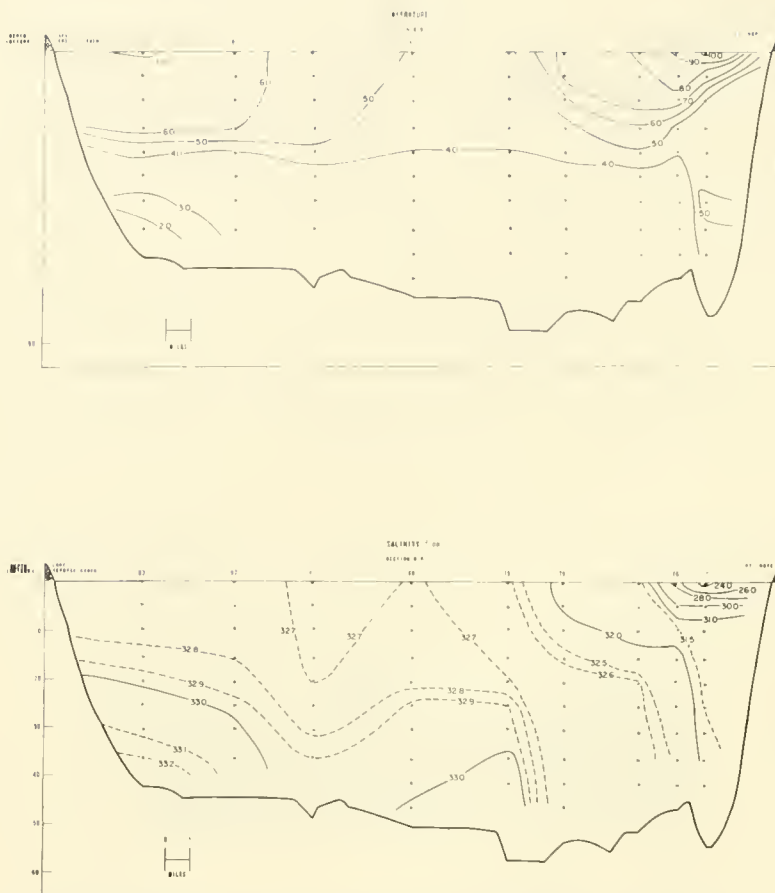


Figure 18 (a), (b). Cross-sections of temperature and salinity on section B-B' from USCGC NORTHWIND data of 22-23 July 1967. Points indicate observed values. Distances between Cape Serdtse-Kamen and station 83 and between station 75 and Point Hope have been exaggerated.

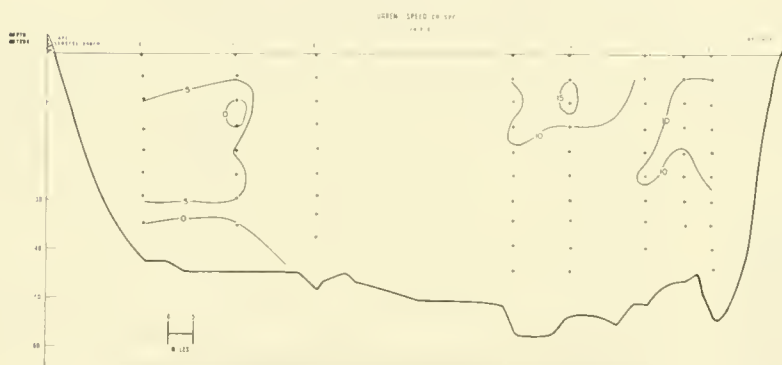
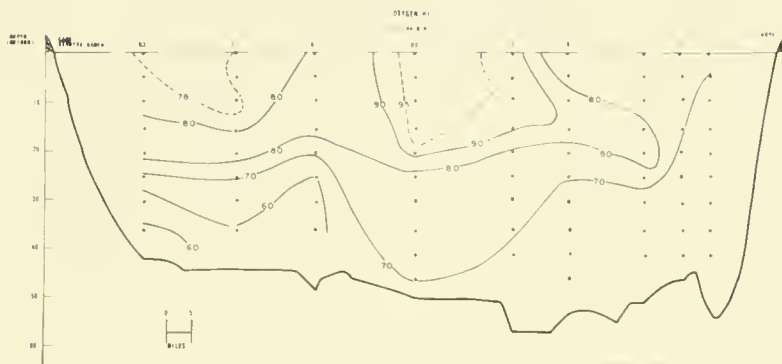


Figure 18 (c), (d). Cross-sections of oxygen and current speed on section B-B' from USCGC NORTHWIND data of 22-23 July 1967. Points indicate observed values. Distances between Cape Serdtse-Kamen and station 83 and between station 75 and Point Hope have been exaggerated.

Table I.—Weather observations given in percentage occurrence in Cape Prince of Wales to Point Barrow area.

Total obs: 147	%
Sky Coverage:	
Clear to few scattered	12
Cloudy	88
Visibility:	
¼ mile or less	16
½ mile or less	10
1 mile	0
2 miles	4
5 miles	21
10 miles	50
Weather:	
No weather or obstructions to vision	54
Fog	35
Rain or drizzle	11
Snow or snow showers	0
Wind Direction:	
N	20
NE	12
E	10
SE	5
S	28
SW	8
W	9
NW	8
Wind Speed:	
0-5 knots	14
6-10 knots	27
11-15 knots	22
16-20 knots	14
21-25 knots	13
26-30 knots	5
31-35 knots	5

Average Barometric Pressure 29.698 inches

All physical and chemical data are presented in Table II. This tabulation is accompanied with an explanation of codes used for the

environmental data. The direct current measurements made at each oceanographic station are tabulated in Table III.

Table II.—Observed and interpolated oceanographic data for stations taken by USCGC NORTH-WIND, 12–23 July 1967, prepared from NODC listing No. 31-1089 NW.

REFERENCE		SHIP CODE	LATITUDE 1/10	LONGITUDE 1/10	MARSSEN SQUARE	STATION TIME (GMT)	YEAR	ORIGINATOR'S		DEPTH TO BOTTOM	MAX. DEPTH OF S'PL'S	WAVE OBSERVATIONS			WEATHER CODE	CLOUD CODES		NODC STATION NUMBER																									
CRUISE CODE	ID. NO.							CRUISE NO.	STATION NUMBER			DIR.	HGT	PER		SEA	TYPE		AMT																								
311089	NW	65510N	171345W	234	07 12 17	1967	E11	001	0036	00				X4	X8		0001																										
<table><tr><th colspan="2">WATER</th><th colspan="2">WIND</th><th rowspan="2">BARO-METER (mbs)</th><th colspan="2">AIR TEMP. °C</th><th rowspan="2">VIS. CODE</th><th rowspan="2">NO. OBS. DEPTHS</th><th rowspan="2">SPECIAL OBSERVATIONS</th></tr><tr><th>COLOR CODE</th><th>TRANS. (m)</th><th>DIR.</th><th>SPEED OR FORCE</th><th>DRY BULB</th><th>WET BULB</th></tr><tr><td></td><td></td><td></td><td>20</td><td>510</td><td>188</td><td>074</td><td>778</td><td>7</td><td></td></tr></table>																		WATER		WIND		BARO-METER (mbs)	AIR TEMP. °C		VIS. CODE	NO. OBS. DEPTHS	SPECIAL OBSERVATIONS	COLOR CODE	TRANS. (m)	DIR.	SPEED OR FORCE	DRY BULB	WET BULB				20	510	188	074	778	7	
WATER		WIND		BARO-METER (mbs)	AIR TEMP. °C		VIS. CODE	NO. OBS. DEPTHS	SPECIAL OBSERVATIONS																																		
COLOR CODE	TRANS. (m)	DIR.	SPEED OR FORCE		DRY BULB	WET BULB																																					
			20	510	188	074	778	7																																			
MESSAGE TIME HR 1/10	CAST NO.	CARD TYPE	DEPTH (m)	T °C	S ‰	SIGMA-T	SPECIFIC VOLUME ANOMALY-210°	Σ Δ O DYN. M. x 10 ³	SOUND VELOCITY	O ₂ ml/l	PO ₄ -P μg - dl/l	TOTAL-P μg - dl/l	NO ₂ -N μg - dl/l	NO ₃ -N μg - dl/l	SiO ₄ -Si μg - dl/l	pH	STATION																										
		STD	0000			3066				771																																	
174	OBS	0000		0781	3064	2392				771																																	
174	OBS	0005		0787	30654	2391			14769	768																																	
	STD	0010		0169	3316	2654	0015010		14545	826																																	
174	OBS	0010		0169	33157	2654			14545	826																																	
174	OBS	0016		0159	33196	2658			14542	762																																	
	STD	0020		0155	3321	2654	0014522		14541	738																																	
174	OBS	0021		0154	33214	2660			14541	735																																	
174	OBS	0026		0147	33226	2661			14539	714																																	
	STD	0030		0136	3329	2667	0013742		14536	700																																	
174	OBS	0031		0133	33318	2670			14535	696																																	

REFERENCE	SHIP CODE	LATITUDE 1/10	LONGITUDE 1/10	MARSSEN SQUARE	STATION TIME (GMT)	YEAR	ORIGINATOR'S		DEPTH TO BOTTOM	MAX. DEPTH OF S'PL'S	WAVE OBSERVATIONS			WEATHER CODE	CLOUD CODES		NODC STATION NUMBER																										
CRUISE CODE	ID. NO.			10"	1"	MO	DAY	HR. 1/10			DIR.	HGT	PER	SEA	TYPE	AMT																											
311089	NW	64540N	171060W	234	07 12 17	1967	E11	002	0040	07	15	1			X4	X8	0002																										
<table><tr><th colspan="2">WATER</th><th colspan="2">WIND</th><th rowspan="2">BARO-METER (mbs)</th><th colspan="2">AIR TEMP. °C</th><th rowspan="2">VIS. CODE</th><th rowspan="2">NO. OBS. DEPTHS</th><th rowspan="2">SPECIAL OBSERVATIONS</th></tr><tr><th>COLOR CODE</th><th>TRANS. (m)</th><th>DIR.</th><th>SPEED OR FORCE</th><th>DRY BULB</th><th>WET BULB</th></tr><tr><td></td><td></td><td></td><td>18</td><td>506</td><td>194</td><td>078</td><td>772</td><td>2</td><td></td></tr></table>																		WATER		WIND		BARO-METER (mbs)	AIR TEMP. °C		VIS. CODE	NO. OBS. DEPTHS	SPECIAL OBSERVATIONS	COLOR CODE	TRANS. (m)	DIR.	SPEED OR FORCE	DRY BULB	WET BULB				18	506	194	078	772	2	
WATER		WIND		BARO-METER (mbs)	AIR TEMP. °C		VIS. CODE	NO. OBS. DEPTHS	SPECIAL OBSERVATIONS																																		
COLOR CODE	TRANS. (m)	DIR.	SPEED OR FORCE		DRY BULB	WET BULB																																					
			18	506	194	078	772	2																																			
MESSAGE TIME HR 1/10	CAST NO.	CARD TYPE	DEPTH (m)	T °C	S ‰	SIGMA-T	SPECIFIC VOLUME ANOMALY-210°	Σ Δ O DYN. M. x 10 ³	SOUND VELOCITY	O ₂ ml/l	PO ₄ -P μg - dl/l	TOTAL-P μg - dl/l	NO ₂ -N μg - dl/l	NO ₃ -N μg - dl/l	SiO ₄ -Si μg - dl/l	pH	STATION																										
		STD	0000	0475	3246	2572	0024845	0000	14666																																		
197	OBS	0000		0475	32464	2572			14666	1008																																	
197	OBS	0005		0397					868																																		
	STD	0010		0325	3286	2616	0018496	0021	14609	790																																	
197	OBS	0010		0325	32855	2616			14609	740																																	
197	OBS	0016		0309	32925	2625			14604	735																																	
	STD	0020		0235	3314	2648	0015019	0038	14570	634																																	
197	OBS	0021		0225	33175	2651			14572	820																																	
197	OBS	0026		0226	33176	2651			14573	615																																	
	STD	0030		0220	3316	2641	0015283	0053	14574	633																																	
197	OBS	0031		0220	33175	2651			14574	634																																	
197	OBS	0037		0226	33170	2651			14576	614																																	

REFERENCE	SHIP CODE	LATITUDE 1/10	LONGITUDE 1/10	MARSSEN SQUARE	STATION TIME (GMT)	YEAR	ORIGINATOR'S		DEPTH TO BOTTOM	MAX. DEPTH OF S'PL'S	WAVE OBSERVATIONS			WEATHER CODE	CLOUD CODES		NODC STATION NUMBER																										
CRUISE CODE	ID. NO.			10"	1"	MO	DAY	HR. 1/10			DIR.	HGT	PER	SEA	TYPE	AMT																											
311089	NW	64540N	170120W	234	07 12 21	1967	E11	003	0040	00	15	1			X2	78	0003																										
<table><tr><th colspan="2">WATER</th><th colspan="2">WIND</th><th rowspan="2">BARO-METER (mbs)</th><th colspan="2">AIR TEMP. °C</th><th rowspan="2">VIS. CODE</th><th rowspan="2">NO. OBS. DEPTHS</th><th rowspan="2">SPECIAL OBSERVATIONS</th></tr><tr><th>COLOR CODE</th><th>TRANS. (m)</th><th>DIR.</th><th>SPEED OR FORCE</th><th>DRY BULB</th><th>WET BULB</th></tr><tr><td></td><td></td><td></td><td>18</td><td>510</td><td>190</td><td>067</td><td>050</td><td>7</td><td></td></tr></table>																		WATER		WIND		BARO-METER (mbs)	AIR TEMP. °C		VIS. CODE	NO. OBS. DEPTHS	SPECIAL OBSERVATIONS	COLOR CODE	TRANS. (m)	DIR.	SPEED OR FORCE	DRY BULB	WET BULB				18	510	190	067	050	7	
WATER		WIND		BARO-METER (mbs)	AIR TEMP. °C		VIS. CODE	NO. OBS. DEPTHS	SPECIAL OBSERVATIONS																																		
COLOR CODE	TRANS. (m)	DIR.	SPEED OR FORCE		DRY BULB	WET BULB																																					
			18	510	190	067	050	7																																			
MESSAGE TIME HR 1/10	CAST NO.	CARD TYPE	DEPTH (m)	T °C	S ‰	SIGMA-T	SPECIFIC VOLUME ANOMALY-210°	Σ Δ O DYN. M. x 10 ³	SOUND VELOCITY	O ₂ ml/l	PO ₄ -P μg - dl/l	TOTAL-P μg - dl/l	NO ₂ -N μg - dl/l	NO ₃ -N μg - dl/l	SiO ₄ -Si μg - dl/l	pH	STATION																										
		STD	0000			3305				666																																	
218	OBS	0000		0327	33053	2633				666																																	
218	OBS	0005		0343	33044	2631			14619	642																																	
	STD	0010		0266	3307	2640	0016400		14587	639																																	
218	OBS	0010		0266	33068	2640			14587	639																																	
218	OBS	0016		0235	33073	2645			14573	685																																	
	STD	0020		0223	3308	2644	0016021		14570	653																																	
218	OBS	0021		0220	33044	2641			14564	650																																	
218	OBS	0026		0208	33077	2645			14564	671																																	
	STD	0030		0208	3308	2645	0015879		14565	671																																	
218	OBS	0031		0208	33052	2643			14566	676																																	
218	OBS	0037		0206	33077	2645			14566																																		

REFERENCE		SHIP CODE	LATITUDE ° 1/10	LONGITUDE ° 1/10	DEPTH INCLIN	MARSDEN SQUARE		STATION TIME (GMT)			YEAR	ORIGINATOR'S		DEPTH TO BOTTOM	MAX. DEPTH OF S'MPL'S	WAVE OBSERVATIONS			WEA- THER CODE	CLOUD CODES		NODC STATION NUMBER
CTRY CODE	ID. NO.					10"	1"	MO DAY HR.1/10	CRUISE NO.	STATION NUMBER		DIR	HGT			PER	SEA	TYPE		AMT		
111084	NW	64480N	167060W	234	49	07	12	230	1967	EE1	004	0049	00	18	1				x1	6	5	0004
		WATER		WIND		BARO- METER (mbs)	AIR TEMP. °C		VIS. CODE	NO. OBS. DEPTHS	SPECIAL OBSERVATIONS											
COLOR CODE	TRANS. (m)	DIR.	SPEED OR FORCE	DRY BULB	WET BULB		DRY BULB	WET BULB														
					14	515	194	072	050	7												
MESSNGR TIME HR 1/10	CAS NO.	CARD TYPE	DEPTH (m)	T °C	S ‰	SIGMA-T	SPECIFIC VOLUME ANOMALY- σ_{θ}	$\Sigma \Delta \theta$ DYN. M. $\times 10^3$	SOUND VELOCITY	O ₂ ml/l	PO ₄ -P $\mu\text{g} \cdot \text{at/l}$	TOTAL-P $\mu\text{g} \cdot \text{at/l}$	NO ₂ -N $\mu\text{g} \cdot \text{at/l}$	NO ₃ -N $\mu\text{g} \cdot \text{at/l}$	SiO ₄ -Si $\mu\text{g} \cdot \text{at/l}$	pH	S C					
		STD	0000	0385	3306	2628	0017472	0000	14636	771												
238		OBS	0000	0385	33061	2628			14636	771												
238		OBS	0005	0400	33070	2628			14643	778												
		STD	0010	0249	3306	2647	0016358	0017	14579	665												
238		OBS	0010	0249	33056	2640			14579	665												
238		OBS	0016	0233	33058	2641			14573	652												
		STD	0020	0232	3307	2642	0016158	0033	14574	651												
238		OBS	0021	0232	33068	2642			14574	650												
238		OBS	0026	0231	33062	2642			14574	645												
		STD	0030	0230	3307	2642	0016139	0049	14574	651												
238		OBS	0031	0230	33068	2643			14574	653												
238		OBS	0037	0230	33077	2643			14576	639												
238		OBS	0042	0230	33075	2643			14576	654												
238		OBS	0047	0231	33072	2643			14578	640												

REFERENCE		SHIP CODE	LATITUDE ° 1/10	LONGITUDE ° 1/10	DEPTH INCLIN	MARSDEN SQUARE		STATION TIME (GMT)			YEAR	ORIGINATOR'S		DEPTH TO BOTTOM	MAX. DEPTH OF S'MPL'S	WAVE OBSERVATIONS			WEA- THER CODE	CLOUD CODES		NODC STATION NUMBER
CTRY CODE	ID. NO.					10"	1"	MO	DAY	HR.1/10		CRUISE NO.	STATION NUMBER			DIR	HGT	PER		SEA	TYPE	
311089	NW	64480N	167300W	233	49	07	13	018	1967	EE1	005		0044	00	18	1			X1	5	4	0005
		WATER		WIND		BARO- METER (mbs)	AIR TEMP. °C		VIS. CODE	NO. OBS. DEPTHS	SPECIAL OBSERVATIONS											
COLOR CODE	TRANS. (m)	DIR.	SPEED OR FORCE	DRY BULB	WET BULB		DRY BULB	WET BULB														
			18	516	190		074	061	7													
MESSNGR TIME HR 1/10	CAS NO.	CARD TYPE	DEPTH (m)	T °C	S ‰	SIGMA-T	SPECIFIC VOLUME ANOMALY- σ_{θ}	$\Sigma \Delta \theta$ DYN. M. $\times 10^3$	SOUND VELOCITY	O ₂ ml/l	PO ₄ -P $\mu\text{g} \cdot \text{at/l}$	TOTAL-P $\mu\text{g} \cdot \text{at/l}$	NO ₃ -N $\mu\text{g} \cdot \text{at/l}$	NO ₃ -N $\mu\text{g} \cdot \text{at/l}$	SiO ₄ -Si $\mu\text{g} \cdot \text{at/l}$	pH	S C					
		STD	0000	0348	3301	2623	0017985	0000	14641	712												
018		OBS	0000	0390	33039	2623			14641	712												
018		OBS	0005	0346	33003	2627			14620	710												
		STD	0010	0275	3300	2633	0016993	0017	14590	698												
018		OBS	0010	0275	32999	2633			14590	698												
018		OBS	0016	0202	32975	2637			14558	695												
		STD	0020	0182	3297	2636	0016525	0034	14550	694												
018		OBS	0021	0179	32968	2638			14549	693												
018		OBS	0026	0178	32959	2636			14549	680												
		STD	0030	0141	3293	2638	0016559	0051	14533	682												
018		OBS	0031	0136	32922	2638			14531	682												
018		OBS	0037	0135	32933	2639			14532	671												

REFERENCE		SHIP CODE	LATITUDE ° 1/10	LONGITUDE ° 1/10	DRIFT INCLIN	MARSDEN SQUARE		STATION TIME (GMT)			YEAR	ORIGINATOR'S		DEPTH TO BOTTOM	MAX. DEPTH OF S'MPL'S	WAVE OBSERVATIONS			WEA- THER CODE	CLOUD CODES		NODC STATION NUMBER	
CTRY CODE	IO. NO.					10"	1"	MO	DAY	HR.1/10		CRUISE NO.	STATION NUMBER			DIR	HGT	PER		SEA	TYPE		AMT
311089		NW	64480N	169000W		235	49	07	13	037	1967	EE1	006	0040	00	12	1			X1	6	3	0006
						WATER		WIND		BARO- METER (mbs)	AIR TEMP. °C		VIS. CODE	NO. OBS. DEPTHS	SPECIAL OBSERVATIONS								
		COLOR CODE	TRANS. (m)	DIR.	SPEED OR FORCE	DRY BULB		WET BULB															
								18		515	191	106	061	7									
MESSNGR TIME HR 1/10	CAS NO.	CARD TYPE	DEPTH (m)	T °C	S ‰	SIGMA-T		SPECIFIC VOLUME ANOMALY- σ_{θ}		$\Sigma \Delta \theta$ DYN. M. $\times 10^3$		SOUND VELOCITY	O ₂ ml/l	PO ₄ -P $\mu\text{g} \cdot \text{at/l}$	TOTAL-P $\mu\text{g} \cdot \text{at/l}$	NO ₂ -N $\mu\text{g} \cdot \text{at/l}$	NO ₃ -N $\mu\text{g} \cdot \text{at/l}$	SiO ₄ -Si $\mu\text{g} \cdot \text{at/l}$	pH				
		STD	0000		3274								762										
037		OBS	0000	08360	32742	25470							762										
043		OBS	0005	0845	32738	2545						14818	778										
		STD	0010	0828	3275	2549		0025026				14812	805										
043		OBS	0010	0828	32750	2549						14812	805										
043		OBS	0016	0733	32841	2570						14778	831										
		STD	0020	0477	3283	2598		0020325				14683	744										
043		OBS	0021	0448	32830	2604						14663	733										
043		OBS	0026	0259	32816	2620						14583	743										
		STD	0030	0255	3282	2621		0018221				14582	751										
043		OBS	0031	0254	32817	2621						14582	752										
043		OBS	0037	0254	32827	2621						14583	745										

REFERENCE		SHIP CODE	LATITUDE ° 1/10	LONGITUDE ° 1/10	ORBIT INCHES	MARSDEN SQUARE		STATION TIME (GMT)			YEAR	ORIGINATOR'S		DEPTH TO BOTTOM	MAX. DEPTH OF S'MPL'S	WAVE OBSERVATIONS			WEA- THER CODE	CLOUD CODES		NODC STATION NUMBER
CTRY CODE	ID. NO.					10"	1"	MO	DAY	HR.1/10		CRUISE NO.	STATION NUMBER			DIR	HGT	PER		SEA	TYPE	
311089	NW		04540N	168360W	233	46	07	13	060		1967	EE1	007	0040	00	17	1		X1	0	3	00071
						WATER		WIND		BARO- METER (mb)	AIR TEMP. °C		VIS. CODE	NO. OBS. DEPTHS	SPECIAL OBSERVATIONS							
						COLOR CODE	TRANS. (m)	DIR.	SPEED OF FORCE		DRY BULB	WET BULB										
								16	513	187		089	083	7								
MESSAGE TIME HR 1/10	CST NO.	CARD TYPE	DEPTH (m)	T °C	S ‰	SIGMA-T	SPECIFIC VOLUME ANOMALY- σ_{θ}	$\Sigma \Delta \sigma$ DYN. M. $\times 10^3$	SOUND VELOCITY	O ₂ ml/l	PO ₄ -P $\mu\text{g} - \text{dl/l}$	TOTAL-P $\mu\text{g} - \text{dl/l}$	NO ₂ -N $\mu\text{g} - \text{dl/l}$	NO ₃ -N $\mu\text{g} - \text{dl/l}$	SiO ₄ -Si $\mu\text{g} - \text{dl/l}$	pH	S CC					
		STD	0000	0729	3206	2571	0022881	0000	14774	837												
060		OBS	0000	0729	32855	2571			14774	837												
060		OBS	0005	0740	32654	2570			14773	831												
		STD	0010	0493	3281	2597	0020462	0022	14680	814												
060		OBS	0010	0493	32807	2597			14680	814												
060		OBS	0016	0425	32807	2604			14652	810												
		STD	0020	0402	3281	2607	0019552	0042	14643	789												
060		OBS	0021	0390	32808	2608			14638	781												
060		OBS	0026	0298	32834	2618			14600	730												
		STD	0030	0296	3282	2617	0018526	0061	14600	729												
060		OBS	0031	0295	32818	2617			14599	729												
060		OBS	0037	0293	32830	2618			14600	732												

REFERENCE		SHIP CODE	LATITUDE ° 1/10	LONGITUDE ° 1/10	ORBIT INCHES	MARSDEN SQUARE		STATION TIME (GMT)			YEAR	ORIGINATOR'S		DEPTH TO BOTTOM	MAX. DEPTH OF S'MPL'S	WAVE OBSERVATIONS			WEA- THER CODE	CLOUD CODES		NODC STATION NUMBER
CTRY CODE	ID. NO.					10"	1"	MO	DAY	HR.1/10		CRUISE NO.	STATION NUMBER			DIR	HGT	PER		SEA	TYPE	
311089	NW		64550N	168077W		233	46	07	13	076	1967	EE1	008	0037	00	14	1		X1	0	2	0008
						WATER		WIND		BARO- METER		AIR TEMP. °C		VIS CODE	NO. OBS. DEPTHS	SPECIAL OBSERVATIONS						
						COLOR CODE	TRANS. mm	DIR.	SPEED OF FORCE	meter (mb)	DRY BULB	WET BULB										
									16	510	188	089	078	8								
MESSAGE TIME HR 1/10	CST NO.	CARD TYPE	DEPTH (m)	T °C	S ‰	SIGMA-T	SPECIFIC VOLUME ANOMALY- σ_{θ}	$\Sigma \Delta \sigma$ DYN. M. $\times 10^3$	SOUND VELOCITY	O ₂ ml/l	PO ₄ -P $\mu\text{g} - \text{dl/l}$	TOTAL-P $\mu\text{g} - \text{dl/l}$	NO ₂ -N $\mu\text{g} - \text{dl/l}$	NO ₃ -N $\mu\text{g} - \text{dl/l}$	SiO ₄ -Si $\mu\text{g} - \text{dl/l}$	pH	S CC					
		STD	0000		3265					760												
076		OBS	0000	06730	32647	25630				760												
076		OBS	0005	0700	32642	2559			14760	771												
		STD	0010	0700	3265	2559	0024087		14761	764												
076		OBS	0010	0700	32645	2559			14761	764												
076		OBS	0016	0585	32652	2574			14716	760												
		STD	0020	0525	3265	2579	0022142		14692	737												
076		OBS	0021	0517	32621	2580			14689	732												
076		OBS	0026	0513	32617	2580			14680	716												
		STD	0030	0513	3262	2580	0022112		14689	714												
076		OBS	0031	0513	32618	2580			14689	714												
076		OBS	0037	0512	32615	2580			14689	719												

REFERENCE		SHIP CODE	LATITUDE ° 1/10	LONGITUDE ° 1/10	ORBIT INCHES	MARSDEN SQUARE		STATION TIME (GMT)			YEAR	ORIGINATOR'S		DEPTH TO BOTTOM	MAX. DEPTH OF S'MPL'S	WAVE OBSERVATIONS			WEA- THER CODE	CLOUD CODES		NODC STATION NUMBER		
CTRY CODE	ID. NO.					10"	1"	MO	DAY	HR.1/10		CRUISE NO.	STATION NUMBER			DIR	HGT	PER		SEA	TYPE		AMT	
311089	NW		65000N	167480W		233	57	07	13	096	1967	EE1	009		0040	00	27	2		X4	A	9		0009
						WATER		WIND		BARO- METER (mb)	AIR TEMP. °C		VIS. CODE	NO. OBS. DEPTHS	SPECIAL OBSERVATIONS									
						COLOR CODE	TRANS. mm	DIR.	SPEED OF FORCE		DRY BULB	WET BULB												
								23	505	196	094	083	3											
MESSAGE TIME HR 1/10	CST NO.	CARD TYPE	DEPTH (m)	T °C	S ‰	SIGMA-T	SPECIFIC VOLUME ANOMALY- $\sigma_t \times 10^3$		$\Sigma \Delta \sigma$ DYN. M. $\times 10^3$	SOUND VELOCITY	O ₂ ml/l	PO ₄ -P $\mu\text{g} - \text{dl/l}$	TOTAL-P $\mu\text{g} - \text{dl/l}$	NO ₂ -N $\mu\text{g} - \text{dl/l}$	NO ₃ -N $\mu\text{g} - \text{dl/l}$	Si O ₄ -Si $\mu\text{g} - \text{dl/l}$	pH	S CC						
		STD	0000	0936	2994	2313	0047483		0000	14815	703													
096		OBS	0000	0936	29938	2313				14815	703													
096		OBS	0005	0888	30029	2328				14799	703													
		STD	0010	0796	3027	2360	0043036		0045	14766	706													
096		OBS	0010	0796	30274	2360				14768	708													
096		OBS	0016	0544	31698	2504				14687	710													
		STD	0020	0509	3205	2535	0026326		0080	14678	793													
096		OBS	0021	0473	32115	2544				14664	806													
096		OBS	0026	0133	32250	2584				14519	827													
		STD	0030	0120	3225	2585	0021600		0104	14514	830													
096		OBS	0031	0116	32249	2585				14514	831													
096		OBS	0037	0117	32251	2585				14514	830													

REFERENCE		SHIP CODE	LATITUDE 1/10	LONGITUDE 1/10	DOP. MODE	MARS SQUARE		STATION TIME (GMT)		YEAR	ORIGINATOR'S		DEPTH TO BOTTOM	MAX. DEPTH OF SAMPL'S	WAVE OBSERVATIONS				WEA- THER CODE	CLOUD CODES		NODC STATION NUMBER
CTRY CODE	ID. NO.					10"	1"	MO	DAY		HR./10	CRUISE NO.			STATION NUMBER	DIR.	HGT	PER		SEA	TYPE	
311089		NW	65020N	167350W		233	57	07	13	107	1967	EE1	010	0021	00	22	2		X4	X	19	0010
						WATER		WIND		BARO- METER		AIR TEMP. °C		VIS. CODE	NO. OBS. DEPTHS	SPECIAL OBSERVATIONS						
						COLOR CODE	TRANS. (m)	DIR.	SPEED OR FORCE	(mbs)	DRY BULB	WET BULB										
									24	507	195	086	083	2								
MESSNGR TIME HR 1/10	CAST NO.	CARD TYPE	DEPTH (m)	T °C	S ‰	SIGMA-T		SPECIFIC VOLUME ANOMALY- σ_{θ}		$\Sigma \Delta$ O DYN. M. $\times 10^3$	SOUND VELOCITY		O ₂ ml/l	PO ₄ -P $\mu\text{g} - \text{dl/l}$	TOTAL-P $\mu\text{g} - \text{dl/l}$	NO ₂ -N $\mu\text{g} - \text{dl/l}$	NO ₃ -N $\mu\text{g} - \text{dl/l}$	SiO ₄ -Si $\mu\text{g} - \text{dl/l}$	pH	S	C	
		STD	0000	0920	3034	2347		0044251		0000	14815		704									
107		OBS	0000	0920	30341	2347					14815		704									
107		OBS	0005	0763	30940	2417					14763		748									
		STD	0010	0682	3098	2430		0036314		0040	14732		762									
107		OBS	0010	0682	30979	2430					14732		762									
107		OBS	0016	0185	31690	2536					14533											
		STD	0020	0161	3172	2540		0025882		0071	14524											
107		OBS	0021	0157	31723	2540					14522											
107		OBS	0026	0155	31720	2540					14522											

REFERENCE		SHIP CODE	LATITUDE 1/10	LONGITUDE 1/10	MARS SQUARE	STATION TIME (GMT)		YEAR	ORIGINATOR'S		DEPTH TO BOTTOM	MAX. DEPTH OF SAMPL'S	WAVE OBSERVATIONS				WEA- THER CODE	CLOUD CODES		NODC STATION NUMBER				
CTRY CODE	ID. NO.					10"	1"		MO	DAY			HR.1/10	CRUISE NO.	STATION NUMBER	DIR.		HGT	PER		SEA	TYPE	AMT	
311089	NW		65420N	169540W	233	59	07	14	028	1967	DD1	011	0023	00	19	1		X2	7	8	0011			
						WATER		WIND		BARO- METER		AIR TEMP. °C		VIS. CODE	NO. OBS. DEPTHS	SPECIAL OBSERVATIONS								
						COLOR CODE	TRANS. (m)	DIR.	SPEED OR FORCE	(mbs)	DRY BULB	WET BULB												
								20		516	167	083	072	4										
MESSNGR TIME HR 1/10	CAST NO.	CARD TYPE	DEPTH (m)	T °C	S ‰	SIGMA-T	SPECIFIC VOLUME ANOMALY-σ _t ?		Σ Δ O DYN. M. x 10 ³	SOUND VELOCITY	O ₂ ml/l	PO ₄ -P μg - dl/l	TOTAL-P μg - dl/l	NO ₂ -N μg - dl/l	NO ₃ -N μg - dl/l	SiO ₄ -Si μg - dl/l	pH			S C				
		STD	0000	0591	3230	2545	0025341		0000	14711														
		OBS	0000	0591	32299	2545				14711	8730													
028		OBS	0005	0275	33095	2641				14590	730													
		STD	0010	0260	3315	2647	0015732		0021	14585	645													
028		OBS	0010	0260	33150	2647				14585	645													
028		OBS	0016	0259	33161	2648				14586	622													
		STD	0020	0259	3317	2648	0015615		0036	14587	616													
028		OBS	0021	0259	33166	2648				14587	615													
028		OBS	0026	0259	33173	2649				14588	616													
		STD	0030	0258	3317	2648	0015612		0052	14588	615													
028		OBS	0031	0258	33163	2648				14588	615													
028		OBS	0037	0258	33158	2647				14589	614													
028		OBS	0042	0256	33154	2648				14589	6044													

REFERENCE		SHIP CODE	LATITUDE 1/10	LONGITUDE 1/10	DRAFT INCHES	MARS SQUARE		STATION TIME (GMT)			YEAR	ORIGINATOR'S		DEPTH TO BOTTOM	MAX. DEPTH OF SAMPL'S	WAVE OBSERVATIONS				WEA- THER CODE	CLOUD CODES		NODC STATION NUMBER								
CTRY CODE	ID. NO.					10"	1"	MO	DAY	HR.1/10		CRUISE NO.	STATION NUMBER			DIR.	HGT	PER	SEA		TYPE	AMT									
311089	NW		65420N	169480W		233	59	07	14	041	1967	DD1	012		0023	00	20	2			X4	7	8		0012						
						WATER		WIND		BARO- METER (mbs)	AIR TEMP. °C		VIS. CODE	NO. OBS. DEPTHS	SPECIAL OBSERVATIONS																
						COLOR CODE	TRANS. (m)	DIR.	SPEED OR FORCE		DRY BULB	WET BULB																			
								35	517	166	089	083	3																		
MESSNGR TIME HR 1/10	CAST NO.	CARD TYPE	DEPTH (m)	T °C	S ‰	SIGMA-T	SPECIFIC VOLUME ANOMALY- σ_{θ}					$\Sigma \Delta$ O DYN. M. $\times 10^3$	SOUND VELOCITY	O ₂ ml/l	PO ₄ -P $\mu\text{g} - \text{dl/l}$	TOTAL-P $\mu\text{g} - \text{dl/l}$	NO ₂ -N $\mu\text{g} - \text{dl/l}$	NO ₃ -N $\mu\text{g} - \text{dl/l}$	SiO ₄ -Si $\mu\text{g} - \text{dl/l}$	pH	S C	C									
		STD	0000	0735	3186	2493	0030362					0000	14763																		
041		OBS	0000	0735	31863	2493							14763																		
041		OBS	0005	0358	33005	2626							14625																		
		STD	0010	0245	3316	2649	0015517					0023	14579																		
041		OBS	0010	0245	33163	2649							14579																		
041		OBS	0016	0236	33188	2652							14576																		
		STD	0020	0211	3321	2656	0014880					0038	14566																		
041		OBS	0021	0208	33220	2656							14565																		
041		OBS	0026	0208	33219	2656							14566																		
		STD	0030	0207	3322	2656	0014825					0053	14566																		
041		OBS	0031	0207	33218	2656							14566																		
041		OBS	0037	0208	33222	2657							14568																		
041		OBS	0042	0207	33220	2656							14568																		

REFERENCE		SHIP CODE	LATITUDE ° 1/10	LONGITUDE ° 1/10	MARS SQUARE	STATION TIME (GMT)				YEAR	ORIGINATOR'S		DEPTH TO BOTTOM	MAX. DEPTH OF S'MPL'S	WAVE OBSERVATIONS				WEA- THER CODE	CLOUD CODES	NODC STATION NUMBER										
CTRY CODE	ID. NO.					10"	1"	MO	DAY		HR./10	CRUISE NO.			STATION NUMBER	DIR.	HGT	PER				SEA	TYPE	AMT							
311	089	NW	65360N	169420W	233	59	07	14	053	1967	DD1	013	0053	00	21	0			X4	7	8	0013									
						WATER		WIND		BARO- METER (mb)	AIR TEMP. °C		VIS. CODE	NO. OBS. DEPTHS	SPECIAL OBSERVATIONS																
						COLOR CODE	TRANS. (m)	DIR.	SPEED OF FORCE		DRY BULB	WET BULB																			
								20	S18	164	094	072	4																		
MESSAGE TIME HR 1/10	CARD NO.	CARD TYPE	DEPTH (m)	T °C	S ‰	SIGMA-T		SPECIFIC VOLUME ANOMALY-σ _t		Σ Δ σ DYN. M. x 10 ³	SOUND VELOCITY		O ₂ ml/l	PO ₄ -P μg - dl/l	TOTAL-P μg - dl/l	NO ₂ -N μg - dl/l	NO ₃ -N μg - dl/l	SiO ₄ -Si μg - dl/l	pH	S C C											
		STD	0000	0760	3107	2427		0036578		0000	14763	791																			
053	OBS	0000	0760	31074	2427						14763	791																			
053	OBS	0005	0406	33134	2632						14647	10570																			
		STD	0010	0318	3313	2640		0016336		0026	14610	754																			
053	OBS	0010	0318	33133	2640						14610	754																			
053	OBS	0016	0306	33157	2643						14606	714																			
		STD	0020	0257	3319	2650		0015410		0042	14586	615																			
053	OBS	0021	0250	33193	2651						14583	605																			
053	OBS	0026	0251	33183	2650						14584	639																			
		STD	0030	0249	3319	2651		0015354		0058	14584	611																			
053	OBS	0031	0249	33280	26580							607																			
053	OBS	0037	0248	33213	2653						14585	603																			
053	OBS	0042	0246	33230	2654						14586	607																			

REFERENCE		SHIP CODE	LATITUDE ° 1/10	LONGITUDE ° 1/10	UNIT INCHES	MARSDEN SQUARE		STATION TIME (GMT)			YEAR	ORIGINATOR'S		DEPTH TO BOTTOM	MAX. DEPTH OF S'MPL'S	WAVE OBSERVATIONS			WEA- THER CODE	CLOUD CODES	NODC STATION NUMBER	
CTRY CODE	ID. NO.					10"	1"	MO	DAY	HR./10		CRUISE NO.	STATION NUMBER			DIR.	HGT	PER				SEA
311	089	NW	65380N	169360W	233	59	07	14	068	1967	DD1	014	0055	00	21	0			X4	X	9	0014
						WATER		WIND		BARO- METER (mb)	AIR TEMP. °C		VIS. CODE	NO. OBS. DEPTHS	SPECIAL OBSERVATIONS							
						COLOR CODE	TRANS. (m)	DIR.	SPEED OF FORCE		DRY BULB	WET BULB										
								20	S15		164	078					078	5				
MESSAGE TIME HR 1/10	CARD NO.	CARD TYPE	DEPTH (m)	T °C	S ‰	SIGMA-T	SPECIFIC VOLUME ANOMALY- σ_t	$\Sigma \Delta \sigma$ DYN. M. $\times 10^3$	SOUND VELOCITY	O ₂ ml/l	PO ₄ -P $\mu\text{g} - \text{dl/l}$	TOTAL-P $\mu\text{g} - \text{dl/l}$	NO ₂ -N $\mu\text{g} - \text{dl/l}$	NO ₃ -N $\mu\text{g} - \text{dl/l}$	Si O ₄ -Si $\mu\text{g} - \text{dl/l}$	pH	S C C					
		STD	0000	0807	3173	2472	0032306	0000	14789													
068	OBS	0000	0807	31731	2472				14789	9920												
068	OBS	0005	0452	32899	2609				14663	773												
		STD	0010	0331	3317	2642	0016169	0024	14616	663												
068	OBS	0010	0331	33170	2642				14616	663												
068	OBS	0016	0294	33164	2645				14601	638												
		STD	0020	0294	3316	2645	0015935	0040	14602	646												
068	OBS	0021	0294	33153	2644				14602	646												
068	OBS	0026	0293	33144	2643				14602	638												
		STD	0030	0291	3314	2643	0016047	0056	14602	633												
068	OBS	0031	0291	33143	2643				14602	632												
068	OBS	0037	0292	33156	2644				14604	641												
068	OBS	0042	0291	33165	2645				14604	632												

REFERENCE		SHIP CODE	LATITUDE ° 1/10	LONGITUDE ° 1/10	UNIT INCHES	MARS DEN SQUARE		STATION TIME IGMT			YEAR	ORIGINATOR'S		DEPTH TO BOTTOM	MAX. DEPTH OF S'MPL'S	WAVE OBSERVATIONS			WEA- THER CODE	CLOUD CODES	NODC STATION NUMBER				
CTRY CODE	ID. NO.					10"	1"	MO	DAY	HR./10		CRUISE NO.	STATION NUMBER			DIR.	HGT	PER				SEA	TYPE	AMT	
311	089	NW	65340N	169250W		233	59	07	14	087	1967	DD1	015	0055	00	17	0		X4	X	9	0015			
						WATER		WIND		BARO- METER (mbs)	AIR TEMP. °C		VIS. CODE	NO. OBS. DEPTHS	SPECIAL OBSERVATIONS										
						COLOR CODE	TRANS. (m)	DIR.	SPEED OF FORCE		DRY BULB	WET BULB													
								17	S10	158	056	056	1												
MESSAGE TIME HR 1/10	CARD NO.	CARD TYPE	DEPTH (m)	T °C	S ‰	SIGMA-T	SPECIFIC VOLUME ANOMALY- σ_t	$\Sigma \Delta \sigma$ DYN. M. $\times 10^3$	SOUND VELOCITY	O ₂ ml/l	PO ₄ -P $\mu\text{g} - \text{dl/l}$	TOTAL-P $\mu\text{g} - \text{dl/l}$	NO ₂ -N $\mu\text{g} - \text{dl/l}$	NO ₃ -N $\mu\text{g} - \text{dl/l}$	Si O ₄ -Si $\mu\text{g} - \text{dl/l}$	pH	S C C								
		STD	0000	0397	3306	2627	0017569	0000	14641	719															
087	OBS		0000	0397	33063	2627			14641	719															
087	OBS		0005	0394	33066	2628			14641	723															
		STD	0010	0270	3305	2638	0016583	0017	14588	680															
087	OBS		0010	0270	33048	2638			14588	680															
087	OBS		0016	0269	33047	2638			14589	669															
		STD	0020	0268	3305	2638	0016580	0034	14589	672															
087	OBS		0021	0266	33047	2638			14589	675															
087	OBS		0026	0270	33040	2637			14591	681															
		STD	0030	0269	3305	2638	0016600	0050	14591	686															
087	OBS		0031	0269	33048	2638			14591	689															
087	OBS		0037	0270	33050	2638			14593	685															
087	OBS		0042	0268	33050	2638			14593	666															

REFERENCE		SHIP CODE	LATITUDE ° 1/10	LONGITUDE ° 1/10	DEPTH INDICATOR	MARSDEN SQUARE		STATION TIME (GMT)			YEAR	ORIGINATOR'S		DEPTH TO BOTTOM	MAX. DEPTH OF S'AMPL'S	WAVE OBSERVATIONS			WEA- THER CODE	CLOUD CODES TYPE AMT	NODC STATION NUMBER
CTRY CODE	ID. NO.					10"	1"	MO	DAY	HR.1/10		CRUISE NO.	STATION NUMBER			DIR.	HGT	PER			
31	1089	NW	65323N	167162W		233	59	07	14	112	1967	DD1	016	0051	00	18	1		A4	A 9	0010
						WATER		WIND		BARO- METER (mb)	AIR TEMP. °C		VIS. CODE	NO. OBS. DEPTHS	SPECIAL OBSERVATIONS						
						COLOR CODE	TRANS. (m)	DIR.	SPEED OR FORCE		DRY BULB	WET BULB									
									18	520	156	061	061	3							
MESSNGR TIME HR 1/10	CAST NO.	CARD TYPE	DEPTH (m)	T °C	S ‰	SIGMA-T	SPECIFIC VOLUME ANOMALY- σ_t	$\Sigma \Delta \sigma$ DYN. M. $\times 10^3$	SOUND VELOCITY	O ₂ ml/l	PO ₄ -P $\mu\text{g} - \text{dl/l}$	TOTAL-P $\mu\text{g} - \text{dl/l}$	NO ₂ -N $\mu\text{g} - \text{dl/l}$	NO ₃ -N $\mu\text{g} - \text{dl/l}$	SiO ₄ -Si $\mu\text{g} - \text{dl/l}$	pH	S C C				
		STD	0000	0473	3303	2617	0018569	0000	14673	745											
	102	OBS	0000	0473	33030	2617			14673	745											
	102	OBS	0005	0469	33042	2618			14672	739											
		STD	0010	0288	3300	2632	0017121	0018	14595	741											
	102	OBS	0010	0288	32996	2632			14595	741											
	102	OBS	0016	0237	32959	2633			14574	702											
		STD	0020	0232	3295	2633	0017005	0035	14572	701											
	102	OBS	0021	0231	32953	2633			14572	700											
	102	OBS	0026	0228	32952	2633			14571	694											
		STD	0030	0226	3295	2633	0016996	0052	14571	690											
	102	OBS	0031	0226	32950	2633			14571	689											
	102	OBS	0037	0225	32948	2633			14572	713											

REFERENCE		SHIP CODE	LATITUDE ° 1/10	LONGITUDE ° 1/10	DEPTH INDICATOR	MARSDEN SQUARE		STATION TIME (GMT)			YEAR	ORIGINATOR'S		DEPTH TO BOTTOM	MAX. DEPTH OF S'AMPL'S	WAVE OBSERVATIONS			WEA- THER CODE	CLOUD CODES TYPE AMT	NODC STATION NUMBER	
CTRY CODE	ID. NO.					10"	1"	MO	DAY	HR.1/10		CRUISE NO.	STATION NUMBER			DIR.	HGT	PER				SEA
31	1089	NW	65322N	169C19W		233	59	07	14	116	1967	DD1	017	0055	00	18	1		X4	X 9		0017
						WATER		WIND		BARO- METER (mb)	AIR TEMP. °C		VIS. CODE	NO. OBS. DEPTHS	SPECIAL OBSERVATIONS							
						COLOR CODE	TRANS. (m)	DIR.	SPEED OR FORCE		DRY BULB	WET BULB										
									18	515	157	061	061	2								
MESSNGR TIME HR 1/10	CAST NO.	CARD TYPE	DEPTH (m)	T °C	S ‰	SIGMA-T	SPECIFIC VOLUME ANOMALY- σ_t	$\Sigma \Delta \sigma$ DYN. M. $\times 10^3$	SOUND VELOCITY	O ₂ ml/l	PO ₄ -P $\mu\text{g} - \text{dl/l}$	TOTAL-P $\mu\text{g} - \text{dl/l}$	NO ₂ -N $\mu\text{g} - \text{dl/l}$	NO ₃ -N $\mu\text{g} - \text{dl/l}$	SiO ₄ -Si $\mu\text{g} - \text{dl/l}$	pH	S C C					
		STD	0000	0462	3293	2610	0019223	0000	14667													
	116	OBS	0000	0462	32928	2610			14667	7550												
	116	OBS	0005	0466	32936	2610			14669	7620												
		STD	0010	0467	3293	2609	0019275	0019	14670													
	116	OBS	0010	0467	32929	2609			14670	7620												
	116	OBS	0016	0314	32924	2624			14607	764												
		STD	0020	0268	3292	2628	0017509	0036	14587	744												
	116	OBS	0021	0256	32924	2629			14583	739												
	116	OBS	0026	0218	32931	2633			14567	712												
		STD	0030	0214	3293	2633	0017026	0055	14565	702												
	116	OBS	0031	0213	32935	2633			14565	700												
	116	OBS	0037	0214	32937	2633			14567	700												
	116	OBS	0042	0215	32933	2633			14568	707												

REFERENCE		SHIP CODE	LATITUDE ° 1/10	LONGITUDE ° 1/10	DEPTH INDICATOR	MARSDEN SQUARE		STATION TIME (GMT)			YEAR	ORIGINATOR'S		DEPTH TO BOTTOM	MAX. DEPTH OF S'AMPL'S	WAVE OBSERVATIONS			WEA- THER CODE	CLOUD CODES TYPE AMT	NODC STATION NUMBER	
						10"	1"	MO	DAY	HR.1/10		CRUISE NO.	STATION NUMBER			DIR.	HGT	PER				SEA
31	1089	NW	65380N	168500W		233	58	07	14	133	1967	DD1	018	0055	00	18	1			X4	X 9	0018
						WATER		WIND		BARO- METER (mb)	AIR TEMP. °C		VIS. CODE	NO. OBS. DEPTHS	SPECIAL OBSERVATIONS							
						COLOR CODE	TRANS. (m)	DIR.	SPEED OR FORCE		DRY BULB	WET BULB										
									20	516	155	061	061	2								
MESSNGR TIME HR 1/10	CAST NO.	CARD TYPE	DEPTH (m)	T °C	S ‰	SIGMA-T	SPECIFIC VOLUME ANOMALY- σ_t	$\Sigma \Delta \sigma$ DYN. M. $\times 10^3$	SOUND VELOCITY	O ₂ ml/l	PO ₄ -P $\mu\text{g} - \text{dl/l}$	TOTAL-P $\mu\text{g} - \text{dl/l}$	NO ₂ -N $\mu\text{g} - \text{dl/l}$	NO ₃ -N $\mu\text{g} - \text{dl/l}$	SiO ₄ -Si $\mu\text{g} - \text{dl/l}$	pH	S C C					
		STD	0000	0513	3280	2594	0020732	0000	14686													
	133	OBS	0000	0513	32798	2594			14686													
	133	OBS	0005	0507	32843	2598			14685													
		STD	0010	0495	3286	2601	0020092	0020	14681													
	133	OBS	0010	0495	32859	2601			14681													
	133	OBS	0016	0462	32859	2604			14668													
		STD	0020	0367	3289	2616	0018608	0040	14629													
	133	OBS	0021	0354	32894	2618			14624													
	133	OBS	0026	0349	32894	2618			14623													
		STD	0030	0345	3289	2619	0018417	0058	14622													
	133	OBS	0031	0344	32888	2618			14621													
	133	OBS	0037	0342	32878	2618			14521													
	133	OBS	0042	0340	32874	2618			14621													

REFERENCE		SHIP CODE	LATITUDE ° 1/10	LONGITUDE ° 1/10	DRIFT MOUSE	MARSDEN SQUARE		STATION TIME (GMT)				YEAR	ORIGINATOR'S		DEPTH TO BOTTOM	MAX. DEPTH OF S'MPL'S	WAVE OBSERVATIONS			WEA- THER CODE	CLOUD CODES		NODC STATION NUMBER
CTRY CODE	ID. NO.					10"	1"	MO	DAY	HR./10	CRUISE NO.		STATION NUMBER	DIR			HGT	PER	SEA		TYPE	AMT	
311089	NW	65380N	168400W	233	58	07	14	155	1967	DD1	019	0053	00	14	2				X4	X	9	0010	
		WATER		WIND		BARO- METER (mb)	AIR TEMP. °C		VIS. CODE	NO. OBS. DEPTHS	SPECIAL OBSERVATIONS												
		COLOR CODE	TRANS. (m)	DIR.	SPEED OF FORCE		DRY BULB	WET BULB															
					17	S13	158	078	061	3													
MESSNGR TIME HR 1/10	CARD NO.	CARD TYPE	DEPTH (m)	T °C	S %.	SIGMA-T	SPECIFIC VOLUME ANOMALY- σ_t	$\Sigma \Delta D$ DYN. M. $\times 10^3$	SOUND VELOCITY	O ₂ ml/l	PO ₄ -P $\mu g - \text{dl/l}$	TOTAL-P $\mu g - \text{dl/l}$	NO ₂ -N $\mu g - \text{dl/l}$	NO ₃ -N $\mu g - \text{dl/l}$	SiO ₄ -Si $\mu g - \text{dl/l}$	pH	S C						
		STD	0000	0480	3252	2576	0022475	0000	14669	757													
155		OBS	0000	0480	32520	2576			14669	757													
155		OBS	0005	0487	32555	2578			14673	773													
		STD	0010	0494	3260	2581	0022005	0022	14677	781													
155		OBS	0010	0494	32603	2581			14677	781													
155		OBS	0016	0491	32617	2582			14677	771													
		STD	0020	0486	3263	2583	0021757	0044	14676	781													
155		OBS	0021	0485	32628	2584			14676	782													
155		OBS	0026	0477	32631	2585			14673	777													
		STD	0030	0475	3264	2585	0021572	0066	14673														
155		OBS	0031	0474	32637	2586			14673	7760													
155		OBS	0037	0475	32638	2586			14674	7770													
155		OBS	0042	0475	32639	2586			14675	7710													

REFERENCE		SHIP CODE	LATITUDE ° 1/10	LONGITUDE ° 1/10	DRIFT MOUSE	MARSDEN SQUARE		STATION TIME (GMT)				YEAR	ORIGINATOR'S		DEPTH TO BOTTOM	MAX. DEPTH OF S'MPL'S	WAVE OBSERVATIONS				WEA- THER CODE	CLOUD CODES		NODC STATION NUMBER									
CTRY CODE	ID. NO.					10"	1"	MO	DAY	HR./10	YEAR		CRUISE NO.	STATION NUMBER			DIR	HGT	PER	SEA		TYPE	AMT										
311089	NW	65370N	168034W	233	58	07	14	180	1967	DD1	020	0057	00	15	2					X4	X	9		0020									
WATER		WIND		BARO- METER (mb)	AIR TEMP. °C		VIS. CODE	NO. OBS. DEPTHS	SPECIAL OBSERVATIONS																								
COLOR CODE	TRANS. (m)	DIR.	SPEED OR FORCE		DRY BULB	WET BULB																											
			16		S15	160																		078	067	3							
MESSENGER TIME HR 1/10	CARD NO.	CARD TYPE	DEPTH (m)	T °C	S %	SIGMA-T	SPECIFIC VOLUME ANOMALY- σ_t	$\Sigma \Delta D$ DYN. M. $\times 10^3$	SOUND VELOCITY	O ₂ ml/l	PO ₄ -P $\mu g - \text{dl/l}$	TOTAL-P $\mu g - \text{dl/l}$	NO ₂ -N $\mu g - \text{dl/l}$	NO ₃ -N $\mu g - \text{dl/l}$	SiO ₄ -Si $\mu g - \text{dl/l}$	pH	S C																
		STD	0000	0625	3236	2546	0025319	0000	14726																								
180		OBS	0000	0625	32355	2546			14726																								
180		OBS	0005	0624	32358	2546			14726																								
		STD	0010	0577	3242	2557	0024292	0025	14709																								
180		OBS	0010	0577	32419	2557			14709																								
180		OBS	0016	0567	32441	2560			14706																								
		STD	0020	0346	3236	2576	0022420	0048	14613																								
180		OBS	0021	0311	32348	2578			14598																								
180		OBS	0026	0255	32316	2581			14574																								
		STD	0030	0246	3231	2581	0021960	0070	14571																								
180		OBS	0031	0245	32314	2581			14571																								
180		OBS	0037	0243	32311	2581			14571																								
180		OBS	0042	0241	32313	2581			14571																								
180		OBS	0047	0242	32324	2582			14572																								

REFERENCE		SHIP CODE	LATITUDE ° 1/10	LONGITUDE ° 1/10	DRIFT MOUSE	MARSDEN SQUARE		STATION TIME (GMT)				YEAR	ORIGINATOR'S		DEPTH TO BOTTOM	MAX. DEPTH OF S'MPL'S	WAVE OBSERVATIONS				WEA- THER CODE	CLOUD CODES		NODC STATION NUMBER									
CTRY CODE	ID. NO.					10"	1"	MO	DAY	HR./10	YEAR		CRUISE NO.	STATION NUMBER			DIR	HGT	PER	SEA		TYPE	AMT										
311089	NW	65360N	168240W	233	58	07	14	212	1967	DD1	021	0053	00	19	1					X2	7	8		0021									
						WATER		WIND		BARO- METER (mbs)	AIR TEMP. °C		VIS. CODE	NO. OBS. DEPTHS	SPECIAL OBSERVATIONS																		
						COLOR CODE	TRANS. (m)	DIR.	SPEED OR FORCE		DRY BULB	WET BULB																					
								21	S18		166	083					072	7															
MESSENGER TIME HR 1/10		CARD NO.	CARD TYPE	DEPTH (m)	T °C	S %	SIGMA-T	SPECIFIC VOLUME ANOMALY- σ_t		$\Sigma \Delta D$ DYN. M. $\times 10^3$		SOUND VELOCITY	O ₂ ml/l	PO ₄ -P $\mu g - \text{dl/l}$	TOTAL-P $\mu g - \text{dl/l}$	NO ₂ -N $\mu g - \text{dl/l}$	NO ₃ -N $\mu g - \text{dl/l}$	SiO ₄ -Si $\mu g - \text{dl/l}$	pH														
		STD	0000	0576	3240	2555	0024421	0000	14707	830																							
212		OBS	0000	0576	32399	2555			14707	830																							
212		OBS	0005	0580	32396	2554			14709	829																							
		STD	0010	0563	3239	2556	0024344	0024	14703	830																							
212		OBS	0010	0563	32391	2556			14703	830																							
212		OBS	0016	0505	32326	2558			14679	821																							
		STD	0020	0346	3219	2563	0023704	0048	14611	809																							
212		OBS	0021	0323	32175	2564			14601	807																							
212		OBS	0026	0313	32165	2564			14598	807																							
		STD	0030	0313	3218	2565	0023504	0072	14598	814																							
212		OBS	0031	0313	32182	2565			14599	815																							
212		OBS	0037	0313	32185	2565			14600	812																							
212		OBS	0042	0312	32202	2567			14600	794																							

REFERENCE		SHIP CODE	LATITUDE * 1/10	LONGITUDE * 1/10	DAFT INDIC	MARSDEN SQUARE		STATION TIME (GMT)			YEAR	ORIGINATOR'S		DEPTH TO BOTTOM	MAX. DEPTH OF S'MPL'S	WAVE OBSERVATIONS			WEA- THER CODE	CLOUD CODES		NODC STATION NUMBER	
CTRY CODE	ID. NO.					10"	1"	MO	DAY	HR. 1/10		CRUISE NO.	STATION NUMBER			DIR.	HGT	PER		SEA	TYPE		AMT
311	089	NW	65360N	168180W	233	58	07	14	223	1967	DD1	022	0046	00	23	2			X1	3 6		0022	
						WATER		WIND		BARO- METER (mba)	AIR TEMP. °C		VIS. CODE	NO. OBS. DEPTHS	SPECIAL OBSERVATIONS								
						COLOR CODE	TRANS. (m)	DIR.	SPEED OR FORCE		DRY BULB	WET BULB											
								23	S15	178	078	061	7										
MESSNGR TIME HR 1/10	CAST NO.	CARD TYPE	DEPTH (m)	T °C	S ‰	SIGMA-T	SPECIFIC VOLUME ANOMALY- σ_t		$\Sigma \Delta D$ DYN. M. $\times 10^3$	SOUND VELOCITY	O ₂ ml/l	PO ₄ -P $\mu g - dl/l$	TOTAL-P $\mu g - dl/l$	NO ₂ -N $\mu g - dl/l$	NO ₃ -N $\mu g - dl/l$	SiO ₄ -Si $\mu g - dl/l$	pH	S C C					
		STD	0000	0707	3092	2423	0037038		0000	14740													
	223	OBS	0000	0707	30922	2423				14740	7160												
	223	OBS	0005	0697	30939	2425				14737	716												
		STD	0010	0663	3102	2436	0035800		0036	14725	716												
	223	OBS	0010	0663	31017	2436				14725	716												
	223	OBS	0016	0548	31230	2466				14682	723												
		STD	0020	0416	3148	2500	0029710		0069	14632	745												
	223	OBS	0021	0394	31517	2505				14623	752												
	223	OBS	0026	04100	31513	25030																	
		STD	0030	0329	3159	2517	0028097		0098	14597													
	223	OBS	0031	0326	31601	2518				14596													
	223	OBS	0037	0322	31613	2519				14596													

REFERENCE		SHIP CODE	LATITUDE * 1/10	LONGITUDE * 1/10	DAFT INDIC	MARSDEN SQUARE		STATION TIME (GMT)		YEAR	ORIGINATOR'S		DEPTH TO BOTTOM	MAX. DEPTH OF S'MPL'S	WAVE OBSERVATIONS			WEA- THER CODE	CLOUD CODES		NODC STATION NUMBER	
CTRY CODE	ID. NO.					10"	1"	MO	DAY		HR, 1/10	CRUISE NO.			STATION NUMBER	DIR.	HGT		PER	SEA		TYPE
311	089	NW	66240N	166240W		233	06	07	15	062	1967	CC1	023	0024	00	15	1			X1	0 6	0023
						WATER		WIND				AIR TEMP. °C										
						COLOR CODE	TRANS. (m)	DIR.	SPEED OR FORCE	BARO- METER (mba)	DRY BULB		WET BULB	VIS. CODE	NO. OBS. DEPTHS	SPECIAL OBSERVATIONS						
											111	100										
									24	S21	168											
MESSNGR TIME OF HR 1/10	CAST NO.	CARD TYPE	DEPTH (m)	T °C	S ‰	SIGMA-T	SPECIFIC VOLUME ANOMALY- σ_t		$\Sigma \Delta D$ DYN. M. $\times 10^3$	SOUND VELOCITY	O ₂ ml/l	PO ₄ -P $\mu g - \text{ml/l}$	TOTAL-P $\mu g - \text{ml/l}$	NO ₂ -N $\mu g - \text{ml/l}$	NO ₃ -N $\mu g - \text{ml/l}$	SiO ₄ -Si $\mu g - \text{ml/l}$	pH	S C C				
		STD	0000	0950	3004	2319	0046961		0000	14822												
	062	OBS	0000	0950	30036	2319				14822												
	062	OBS	0005	0953	30032	2318				14824												
		STD	0010	0923	3008	2326	0046243		0047	14814												
	062	OBS	0010	0923	30081	2326				14814												

REFERENCE		SHIP CODE	LATITUDE * 1/10	LONGITUDE * 1/10	DAFT INDIC	MARSDEN SQUARE		STATION TIME (GMT)		YEAR	ORIGINATOR'S		DEPTH TO BOTTOM	MAX. DEPTH OF S'MPL'S	WAVE OBSERVATIONS			WEA- THER CODE	CLOUD CODES		NODC STATION NUMBER	
CTRY CODE	ID. NO.					10"	1"	MO	DAY		HR, 1/10	CRUISE NO.			STATION NUMBER	DIR.	HGT		PER	SEA		TYPE
311	089	NW	66320N	166580W	233	66	07	15	086	1967	CC1	024	0038	00	22	2			X2	7 8		0024
						WATER		WIND		BARO- METER (mba)	AIR TEMP. °C		VIS. CODE	NO. OBS. DEPTHS	SPECIAL OBSERVATIONS							
						COLOR CODE	TRANS. (m)	DIR.	SPEED OR FORCE		DRY BULB	WET BULB										
									22	S27	164	083	072	7								
MESSNGR TIME HR 1/10	CAST NO.	CARD TYPE	DEPTH (m)	T °C	S ‰	SIGMA-T	SPECIFIC VOLUME ANOMALY- σ_t		$\Sigma \Delta D$ DYN. M. $\times 10^3$	SOUND VELOCITY	O ₂ ml/l	PO ₄ -P $\mu g - dl/l$	TOTAL-P $\mu g - dl/l$	NO ₂ -N $\mu g - dl/l$	NO ₃ -N $\mu g - dl/l$	SiO ₄ -Si $\mu g - dl/l$	pH	S C C				
		STD	0000	0745	3096	2421	0037227		0000	14755	722											
	086	OBS	0000	0745	30961	2421				14755	722											
	086	OBS	0005	0746	30961	2421				14757	718											
		STD	0010	0739	3099	2424	0036946		0037	14755	732											
	086	OBS	0010	0739	30990	2424				14755	732											
	086	OBS	0016	0659	31203	2451				14727	751											
		STD	0020	0635	3123	2456	0033882		0073	14718	728											
	086	OBS	0021	0626	31256	2459				14715	726											
	086	OBS	0026	0566	31502	2486				14695	737											

REFERENCE		SHIP CODE	LATITUDE ° 1/10	LONGITUDE ° 1/10	DEPT INCH	MARSDEN SQUARE		STATION TIME (GMT)			YEAR	ORIGINATOR'S		DEPTH TO BOTTOM	MAX. DEPTH OF S'MPL'S	WAVE OBSERVATIONS			WEA- THER CODE	CLOUD CODES		NODC STATION NUMBER		
CTRY CODE	ID. NO.					10"	1"	MO	DAY	HR. 1/10		CRUISE NO.	STATION NUMBER			DIR	HGT	PER		SEA	TYPE		AMT	
31	1289	NW	6635'N	16714'W	2	53	67	17	15	100	1967	CC1	025	0032	00	22	3		X2	7	8	0025		
						WATER		WIND		BARO- METER		AIR TEMP. °C		VIS. CODE	NO. OBS. DEPTHS	SPECIAL OBSERVATIONS								
						COLOR CODE	TRANS. (m)	DIR.	SPEED OR FORCE	METER (mb)	DRY BULB	WET BULB												
									22	529	163	078	061	7										
MESSAGE TIME OF HR 1/10	CARD NO.	CARD TYPE	DEPTH (m)	T °C	S ‰	SIGMA-T	SPECIFIC VOLUME ANOMALY- $\times 10^3$	$\Sigma \Delta D$ DYN. M. $\times 10^3$	SOUND VELOCITY	O ₂ ml/l	PO ₄ -P $\mu\text{g} \cdot \text{at/l}$	TOTAL-P $\mu\text{g} \cdot \text{at/l}$	NO ₃ -N $\mu\text{g} \cdot \text{at/l}$	NO ₃ -N $\mu\text{g} \cdot \text{at/l}$	SiO ₄ -Si $\mu\text{g} \cdot \text{at/l}$	pH	S C							
		STD	0000	0551	3155	2491	0030506	0000	14685	751														
	100	OBS	0000	0551	31551	2491			14685	751														
	100	OBS	0005	0552	31536	2490			14686	762														
		STD	0010	0550	3154	2490	0030624	0031	14686	781														
	100	OBS	0010	0550	31535	2490			14686	781														
	100	OBS	0016	0547	31603	2496			14687	756														
		STD	0020	0504	3175	2512	0028528	0060	14672	751														
	100	OBS	0021	0488	31802	2518			14666	751														

REFERENCE		SHIP CODE	LATITUDE ° 1/10	LONGITUDE ° 1/10	DEPT INCH	MARSDEN SQUARE		STATION TIME (GMT)			YEAR	ORIGINATOR'S		DEPTH TO BOTTOM	MAX. DEPTH OF S'MPL'S	WAVE OBSERVATIONS			WEA- THER CODE	CLOUD CODES		NODC STATION NUMBER
CTRY CODE	ID. NO.					10"	1"	MO	DAY	HR. 1/10		CRUISE NO.	STATION NUMBER			DIR	HGT	PER		SEA	TYPE	
31	1089	NW	6635'N	167382'W	233	67	07	15	122	1967	CC1	026	0031	00	18	3			X2	7	8	0026
						WATER		WIND		BARO- METER (mbs)	AIR TEMP. °C		VIS. CODE	NO. OBS. DEPTHS	SPECIAL OBSERVATIONS							
						COLOR CODE	TRANS. (m)	DIR.	SPEED OF FORCE		DRY BULB	WET BULB										
									22	523	151	083	061	7								
MESSAGE TIME OF HR 1/10	CARD NO.	CARD TYPE	DEPTH (m)	T °C	S ‰	SIGMA-T		SPECIFIC VOLUME ANOMALY-3107		$\Sigma \Delta D$ DYN. M. $\times 10^3$	SOUND VELOCITY	O ₂ ml/l	PO ₄ -P $\mu\text{g} \cdot \text{at/l}$	TOTAL-P $\mu\text{g} \cdot \text{at/l}$	NO ₃ -N $\mu\text{g} \cdot \text{at/l}$	NO ₃ -N $\mu\text{g} \cdot \text{at/l}$	SiO ₄ -Si $\mu\text{g} \cdot \text{at/l}$	pH				
		STD	0000	0491	3183	2519		0027814		0000	14664	755										
	122	OBS	0000	0491	31825	2519					14664	755										
	122	OBS	0005	0491	31818	2519					14665	782										
		STD	0010	0489	3182	2519		0027824		0028	14665	789										
	122	OBS	0010	0489	31822	2519					14665	780										
	122	OBS	0016	0488	31826	2520					14665	796										

REFERENCE		SHIP CODE	LATITUDE ° 1/10	LONGITUDE ° 1/10	DEPT INCH	MARSDEN SQUARE		STATION TIME (GMT)			YEAR	ORIGINATOR'S		DEPTH TO BOTTOM	MAX. DEPTH OF S'MPL'S	WAVE OBSERVATIONS			WEA- THER CODE	CLOUD CODES		NODC STATION NUMBER	
CTRY CODE	ID. NO.					10"	1"	MO	DAY	HR. 1/10		CRUISE NO.	STATION NUMBER			DIR	HGT	PER		SEA	TYPE		AMT
31	1089	NW	66362N	167550W	233	67	07	15	148	1967	CC1	027	0047	00	18	3		X2	7	8	0027		
						WATER		WIND		BARO- METER		AIR TEMP. °C		VIS. CODE	NO. OBS. DEPTHS	SPECIAL OBSERVATIONS							
						COLOR CODE	TRANS. (m)	DIR.	SPEED OF FORCE	METER (mb)	DRY BULB	WET BULB											
									21	527	137	067	050	7									
MESSAGE TIME OF HR 1/10	CARD NO.	CARD TYPE	DEPTH (m)	T °C	S ‰	SIGMA-T	SPECIFIC VOLUME ANOMALY- $\times 10^3$	$\Sigma \Delta D$ DYN. M. $\times 10^3$	SOUND VELOCITY	O ₂ ml/l	PO ₄ -P $\mu\text{g} \cdot \text{at/l}$	TOTAL-P $\mu\text{g} \cdot \text{at/l}$	NO ₃ -N $\mu\text{g} \cdot \text{at/l}$	NO ₃ -N $\mu\text{g} \cdot \text{at/l}$	SiO ₄ -Si $\mu\text{g} \cdot \text{at/l}$	pH	S C						
		STD	0000	0519	3155	2495	0030142	0000	14672	757													
	149	OBS	0000	0519	31554	2495			14672	757													
	148	OBS	0005	0520	31540	24940			14674	766													
		STD	0010	0519	3155	2494	0030217	0030	14674	769													
	148	OBS	0010	0519	31545	2494			14674	764													
	148	OBS	0016	0517	31559	2496			14674	782													
		STD	0020	0505	3165	2504	0029290	0060	14671	773													
	148	OBS	0021	0501	31682	2507			14670	769													

REFERENCE		SHIP CODE	LATITUDE ° 1/10	LONGITUDE ° 1/10	DRIFT INDIC	MARDEN SQUARE		STATION TIME (GMT)		YEAR	ORIGINATOR'S		DEPTH TO BOTTOM	MAX. DEPTH OF S'MPL'S	WAVE OBSERVATIONS			WEA- THER CODE	CLOUD CODES		NOOC STATION NUMBER	
CTRY CODE	IO. NO.					10"	1"	MO	DAY		HR.1/10	CRUISE NO.			STATION NUMBER	DIR	HGT		PER	SEA		TYPE
311	089	NW	66350N	168200W		243	68	10	17	15	160	1967	CC1	028	0042	00	15	2		X4	X9	0028
						WATER		WIND		BARO- METER (mbs)	AIR TEMP. °C		VIS. CODE	NO. OBS. DEPTHS	SPECIAL OBSERVATIONS							
						COLOR CODE	TRANS. (m)	DIR.	SPEED OF FORCE		DRY BULB	WET BULB										
									19	521	120	072	056	3								
MESSAGE TIME HR 1/10	CAS NO.	CARD TYPE	DEPTH (m)	T °C	S ‰	SIGMA-T	SPECIFIC VOLUME ANOMALY-X10 ³		Σ Δ σ DYN. M. X 10 ³	SOUND VELOCITY	O ₂ ml/l	PO ₄ -P μg - at/l	TOTAL-P μg - at/l	NO ₂ -N μg - at/l	NO ₃ -N μg - at/l	SiO ₄ -Si μg - at/l	pH					
		STD	0000	0393	3238	2574	0022658		0000	14630	785											
160		OBS	0000	0393	32383	2574				14630	785											
160		OBS	0005	0393	32380	2573				14631	785											
		STD	0010	0391	3237	2573	0022713		0023	14631	794											
160		OBS	0010	0391	32374	2573				14631	794											
160		OBS	0016	0390	32376	2573				14632	807											
		STD	0020	0388	3238	2574	0022680		0045	14631	792											
160		OBS	0021	0387	32375	2574				14631	791											
160		OBS	0026	0387	32384	2574				14632	795											
		STD	0030	0388	3238	2574	0022622		0068	14633	786											
160		OBS	0031	0388	32384	2574				14633	781											

REFERENCE		SHIP CODE	LATITUDE ° 1/10	LONGITUDE ° 1/10	DRIFT INDIC	MARDEN SQUARE		STATION TIME (GMT)				YEAR	ORIGINATOR'S		DEPTH TO BOTTOM	MAX. DEPTH OF S'MPL'S	WAVE OBSERVATIONS				WEA- THER CODE	CLOUD CODES		NOOC STATION NUMBER		
CTRY CODE	ID. NO.					10"	1"	MO	DAY	HR. 1/10	CRUISE NO.		STATION NUMBER	DIR				HGT	PER	SEA		TYPE	AMT			
														COLOR CODE			TRANS. (m)								DIR.	SPEED OF FORCE
311089	NW	66360N	168490W	233	68	07	15	180	1967	CC1	029	0048	00	22	2				X4	X9		0029				
						WATER		WIND		BARO- METER (mbs)	AIR TEMP. °C		VIS. CODE	NO. OBS. DEPTHS	SPECIAL OBSERVATIONS											
						COLOR CODE	TRANS. (m)	DIR.	SPEED OF FORCE		DRY BULB	WET BULB														
								21		513	104	067	056	2												
MESSAGE TIME HR 1/10	CAS NO.	CARD TYPE	DEPTH (m)	T °C	S ‰	SIGMA-T	SPECIFIC VOLUME ANOMALY-X10 ³		Σ Δ σ DYN. M. X 10 ³	SOUND VELOCITY	O ₂ ml/l	PO ₄ -P μg - at/l	TOTAL-P μg - at/l	NO ₂ -N μg - at/l	NO ₃ -N μg - at/l	SiO ₄ -Si μg - at/l	pH	S C C								
		STD	0000	0470	3265	2587	0021417		0000	14666	731															
180		OBS	0000	0470	32647	2587				14666	731															
180		OBS	0005	0470	32667	2589				14667	726															
		STD	0010	0420	3284	2607	0019476		0020	14650	730															
180		OBS	0010	0420	32840	2607				14650	730															
180		OBS	0016	041	32868	2611				14643	737															
		STD	0020	0385	3288	2614	0018849		0040	14637	734															
180		OBS	0021	0384	32881	2614				14637	733															
180		OBS	0026	0393	32926	2617				14642	735															
		STD	0030	0392	3291	2616	0018673		0058	14642	730															
180		OBS	0031	0391	32910	2616				14642	729															
180		OBS	0037	0378	32921	2618				14637	732															

REFERENCE		SHIP CODE	LATITUDE ° 1/10	LONGITUDE ° 1/10	DRIFT INDIC	MARDEN SQUARE		STATION TIME (GMT)		YEAR	ORIGINATOR'S		DEPTH TO BOTTOM	MAX. DEPTH OF S'MPL'S	WAVE OBSERVATIONS			WEA- THER CODE	CLOUD CODES		NOOC STATION NUMBER
CTRY CODE	ID. NO.					10"	1"	MO	DAY		HR./10	CRUISE NO.			STATION NUMBER	DIR.	HGT		PER	SEA	
311089	NW	66300N	169120W	233	69	07	15	202	1967	CC1	030	0055	00	16	1		X4	X9		0030	
						WATER		WIND		BARO- METER (mb)	AIR TEMP. °C		VIS. CODE	NO. OBS. DEPTHS	SPECIAL OBSERVATIONS						
						COLOR CODE	TRANSL (m)	DIR.	SPEED OF FORCE		DRY BULB	WET BULB									
								16		515	077	078	061	6							
MESSAGE TIME HR 1/10	CARD NO.	CARD TYPE	DEPTH (m)	T °C	S ‰	SIGMA-T	SPECIFIC VOLUME ANOMALY-X10 ³		Σ Δ σ DYN. M. X 10 ³	SOUND VELOCITY	O ₂ ml/l	PO ₄ -P μg - at/l	TOTAL-P μg - at/l	NO ₂ -N μg - at/l	NO ₃ -N μg - at/l	SiO ₄ -Si μg - at/l	pH	NOOC STATION NUMBER			
		STD	0000	0581	3252	2564	0023571		0000	14710	778										
202		OBS	0000	0581	32520	2564				14710	778										
202		OBS	0005	0574	32547	2567				14709	782										
		STD	0010	0509	3271	2588	0021330		0022	14685	786										
202		OBS	0010	0509	32714	2588				14685	786										
202		OBS	0016	0309	32439	2620				14630	714										
		STD	0020	0354	3246	2623	0017963		0042	14625	699										
202		OBS	0021	0352	32462	2624				14624	697										
202		OBS	0026	0349	32976	2625				14624	695										
		STD	0030	0348	3297	2625	0017834		0060	14624	719										
202		OBS	0031	0348	32970	2625				14624	723										
202		OBS	0037	0346	32983	2626				14625											
202		OBS	0042	0344	32966	2625				14624	696										

REFERENCE		SHIP CODE	LATITUDE ° 1/10	LONGITUDE ° 1/10	DRIFT INCHES	MARSDEN SQUARE		STATION TIME (GMT)		YEAR	ORIGINATOR'S		DEPTH TO BOTTOM	MAX. DEPTH OF SAMPLE	WAVE OBSERVATIONS			WEA- THER CODE	CLOUD CODES	NODC STATION NUMBER	
CTRY CODE	ID. NO.					10'	1'	MO	DAY		HR./1/10	CRUISE NO.			STATION NUMBER	DIR.	HGT				PER
31	1089	NW	67050N	171110W		234	71	07	16	062	1967	881	033	0046	00	05	2		X4	X 19	0033
						WATER		WIND		BARO- METER		AIR TEMP. °C		VIS. CODE	NO. OBS. DEPTHS	SPECIAL OBSERVATIONS					
						COLOR CODE	TRANS. (m)	DIR.	SPEED OR FORCE	(mbs)	DRY BULB	WET BULB									
							35	521	950	061	056	2									
MESSNGR TIME HR 1/10	CAST NO.	CARD TYPE	DEPTH (m)	T °C	S ‰	SIGMA-T	SPECIFIC VOLUME ANOMALY- σ_t		$\Sigma \Delta D$ OTN. M. $\times 10^3$	SOUND VELOCITY	O ₂ ml/l	PO ₄ -P $\mu g - dl/l$	TOTAL-P $\mu g - dl/l$	NO ₂ -N $\mu g - dl/l$	NO ₃ -N $\mu g - dl/l$	SiO ₄ -Si $\mu g - dl/l$	pH				
		STD	0000	0609	3173	2499	0029783		0000	14711											
062		OBS	0000	0609	31734	2499				14711	8540										
062		OBS	0005	0608	31736	2499				14712	8480										
		STD	0010	0559	3246	2562	0023820		0027	14702	8470										
062		OBS	0010	0559	32455	2562				14702	847										
062		OBS	0016	0261	33068	2640				14586	799										
		STD	0020	0250	3309	2643	0016112		0047	14582	646										
062		OBS	0021	0247	33095	2643				14581	628										
062		OBS	0026	0234	33113	2646				14576	664										
		STD	0030	0233	3311	2646	0015834		0063	14576	663										
062		OBS	0031	0232	33104	2645				14576	660										
062		OBS	0037	0222	33093	2645				14572	617										

REFERENCE		SHIP CODE	LATITUDE ° 1/10	LONGITUDE ° 1/10	DEPTH METER	MARSDEN SQUARE	STATION TIME (GMT)		YEAR	ORIGINATOR'S		DEPTH TO BOTTOM	MAX. DEPTH OF S'MPL'S	WAVE OBSERVATIONS			WEA- THER CODE	CLOUD CODES		NODC STATION NUMBER	
CTRY CODE	ID. NO.						10°	1°		MO	DAY			HR./10	CRUISE NO.	STATION NUMBER		DIR.	HGT		PER
311089	NW		67133N	170450W	134	73	07	16	084	1967	BB1	034	0044	00	06	2		X4	X	19	0034
							WATER		WIND		BARO- METER	AIR TEMP. °C		VIS. CODE	NO. OBS. DEPTHS	SPECIAL OBSERVATIONS					
							COLOR CODE	TRANS. (m)	DIR.	SPEED OF FORCE		(mbs)	DRY BULB					WET BULB			
									08		315	948	061	056	2						
MESSAGE TIME HR 1/10	CAS OF NO.	CARD TYPE	DEPTH (m)	T °C	S ‰	SIGMA-T	SPECIFIC VOLUME ANOMALY- σ_t		$\Sigma \Delta$ DYN. M. $\times 10^3$	SOUND VELOCITY	O ₂ ml/l	PO ₄ -P $\mu\text{g} \cdot \text{at/l}$	TOTAL-P $\mu\text{g} \cdot \text{at/l}$	NO ₂ -N $\mu\text{g} \cdot \text{at/l}$	NO ₃ -N $\mu\text{g} \cdot \text{at/l}$	SiO ₄ -Si $\mu\text{g} \cdot \text{at/l}$	pH			S C C	
		STD	0000	0464	3241	2569	0023132		0000	14661											
083		OBS	0005	0464	3241	2569				14661	8470										
083		OBS	0010	0461	3241	2569				14660	8650										
		STD	0010	0347	3264	2598	0020311		0022	14616											
083		OBS	0010	0347	3264	2598				14616	8400										
083		OBS	0016	0233	3313	2647				14574	737										
		STD	0020	0226	3313	2648	0015612		0040	14572	680										
083		OBS	0021	0225	3313	2648				14572	673										
083		OBS	0026	0223	3313	2648				14571	683										
		STD	0030	0210	3314	2649	0015548		0055	14571	659										
083		OBS	0031	0219	3313	2649				14571	644										

REFERENCE		SHIP CODE	LATITUDE ° 1/10	LONGITUDE ° 1/10	DEPTH METER	MARSDEN SQUARE	STATION TIME (GMT)		YEAR	ORIGINATOR'S		DEPTH TO BOTTOM	MAX. DEPTH OF S'MPL'S	WAVE OBSERVATIONS				WEA- THER CODE	CLOUD CODES		NODC STATION NUMBER
CTRY CODE	ID. NO.						10°	1°		MO	DAY			HR.1/10	CRUISE NO.	STATION NUMBER	DIR.		HGT	PER	
311089	NW		67210N	170210W	234	70	07	16	102	1967	BB1	035	0046	00	09	3		X4	X	19	0035
						WATER		WIND		BARO- METER		AIR TEMP. °C		VIS. CODE	NO. OBS. DEPTHS	SPECIAL OBSERVATIONS					
						COLOR CODE	TRANS. (m)	DIR.	SPEED OF FORCE	(mbs)	(mbs)	DRY BULB	WET BULB								
								10		507		956		072		056		1			
MESSAGE TIME HR 1/10	CAS OF NO.	CARD TYPE	DEPTH (m)	T °C	S ‰	SIGMA-T	SPECIFIC VOLUME ANOMALY- σ_t		$\Sigma \Delta$ DYN. M. $\times 10^3$	SOUND VELOCITY	O ₂ ml/l	PO ₄ -P $\mu\text{g} \cdot \text{at/l}$	TOTAL-P $\mu\text{g} \cdot \text{at/l}$	NO ₂ -N $\mu\text{g} \cdot \text{at/l}$	NO ₃ -N $\mu\text{g} \cdot \text{at/l}$	SiO ₄ -Si $\mu\text{g} \cdot \text{at/l}$	pH			S C C	
		STD	0000	0404	3294	2617	0018585		0000	14643											
102		OBS	0000	0404	32937	2617				14643	9120										
102		OBS	0005	0403	32957	2618				14643	9300										
		STD	0010	0400	3296	2619	0018350		0018	14643											
102		OBS	0010	0400	32964	2619				14643	9270										
102		OBS	0016	0349	32971	2621				14639	9050										
		STD	0020	0381	3298	2622	0018058		0037	14637											
102		OBS	0021	0376	32984	2623				14635	8420										
102		OBS	0026	0335	32949	2628				14618	768										
		STD	0030	0317	3303	2632	0017116		0054	14612	744										
102		OBS	0031	0313	33032	2633				14610	737										
102		OBS	0037	0300	33050	2635				14606	692										

REFERENCE		SHIP CODE	LATITUDE ° 1/10	LONGITUDE ° 1/10	DEPTH METER	MARSDEN SQUARE		STATION TIME (GMT)		YEAR	ORIGINATOR'S		DEPTH TO BOTTOM	MAX. DEPTH OF S'MPL'S	WAVE OBSERVATIONS				WEA- THER CODE	CLOUD CODES		NODC STATION NUMBER	
CTRY CODE	ID. NO.					10°	1°	MO	DAY		HR./10	CRUISE NO.			STATION NUMBER	DIR.	HGT	PER		SEA	TYPE		AMT
311089	NW		67306N	169540W		235	79	07	16	132	1967	BB1	036	0051	00	00	0			X4	X	19	0036
						WATER		WIND		BARO- METER		AIR TEMP. °C		VIS. CODE	NO. OBS. DEPTHS	SPECIAL OBSERVATIONS							
						COLOR CODE	TRANS. (m)	DIR.	SPEED OF FORCE	(mbs)	(mbs)	DRY BULB	WET BULB										
										13 <td>506</td> <td>955</td> <td>067</td> <td>056</td> <td>1</td> <td colspan="6"></td>		506	955	067		056	1						
MESSAGE TIME HR 1/10	CAS OF NO.	CARD TYPE	DEPTH (m)	T °C	S ‰	SIGMA-T	SPECIFIC VOLUME ANOMALY- σ_t		$\Sigma \Delta$ DYN. M. $\times 10^3$	SOUND VELOCITY	O ₂ ml/l	PO ₄ -P $\mu\text{g} \cdot \text{at/l}$	TOTAL-P $\mu\text{g} \cdot \text{at/l}$	NO ₂ -N $\mu\text{g} \cdot \text{at/l}$	NO ₃ -N $\mu\text{g} \cdot \text{at/l}$	SiO ₄ -Si $\mu\text{g} \cdot \text{at/l}$	pH			S C C			
		STD	0000	0442	3266	2591	0021039		0000	14655	812												
132		OBS	0000	0442	32660	2591				14655	812												
132		OBS	0005	0446	32652	2590				14657	807												
		STD	0010	0437	3266	2591	0020982		0021	14654	796												
132		OBS	0010	0437	32662	2591				14654	796												
132		OBS	0016	0425	32666	2593				14650	790												
		STD	0020	0427	3270	2595	0020609		0042	14652	794												
132		OBS	0021	0428	32703	2596				14653	795												
132		OBS	0026	0418	32727	2599				14650	795												
		STD	0030	0384	3273	2602	0019985		0062	14636	777												
132		OBS	0031	0378	32729	2603				14634	774												
132		OBS	0037	0365	32751	2606				14630	774												
132		OBS	0042	0325	32830	2616				14614	684												

REFERENCE		SHIP CODE	LATITUDE ° 1/10	LONGITUDE ° 1/10	DRIFT INCHES	MARSDEN SQUARE		STATION TIME (GMT)			YEAR	ORIGINATOR'S		DEPTH TO BOTTOM	MAX. DEPTH OF S'MPL'S	WAVE OBSERVATIONS			WEA- THER CODE	CLOUD CODES		NODC STATION NUMBER	
CTRY CODE	ID. NO.					10"	1"	MO	DAY	HR.1/10		CRUISE NO.	STATION NUMBER			DIR.	HGT PER	SEA		TYPE	AMT		
311	089	NW	07420N	169230W		233	79	07	16	161	1967	BB1	037	0053	00	09	2		X4	X9		0037	
						WATER		WIND		AIR TEMP. °C													
						COLOR CODE	TRANS. (m)	DIR.	SPEED OR FORCE	BARO- METER (mb)	DRY BULB	WET BULB	VIS. CODE	NO. OBS. DEPTHS	SPECIAL OBSERVATIONS								
									34	508	956	072	067	1									
MESSENGER TIME OF HR 1/10	CAST NO.	CARD TYPE	DEPTH (m)	T °C	S ‰	SIGMA-T	SPECIFIC VOLUME ANOMALY-σ _t	Σ Δ D DYN. M. X 10 ³	SOUND VELOCITY	O ₂ ml/l	PO ₄ -P μg - at/l	TOTAL-P μg - at/l	NO ₂ -N μg - at/l	NO ₃ -N μg - at/l	SiO ₄ -Si μg - at/l	pH	S C						
		STD	0000	0575	3261	2572	0022805	0000	14709														
161	OBS		0000	0575	3261.3	2572			14709	899Q													
161	OBS		0005	0572	3264.8	2575			14709	902J													
		STD	0010	0573	3267	2577	0022388	0023	14711														
161	OBS		0010	0573	3266.7	2577			14711	918J													
161	OBS		0016	0411	3267.0	2595			14645	794													
		STD	0020	0328	3273	2607	0019471	0044	14611	706													
161	OBS		0021	0317	3274.3	2609			14606	693													
161	OBS		0026	0316	3274.5	2610			14607	686													
		STD	0030	0320	3275	2609	0019286	0063	14609	715													
161	OBS		0031	0321	3269.0	2605.7				717													
161	OBS		0037	0314	3274.7	2610			14606	686													
161	OBS		0042	0310	3275.6	2611			14607	670													

REFERENCE		SHIP CODE	LATITUDE ° 1/10	LONGITUDE ° 1/10	DATE MO DAY	MARSDEN SQUARE		STATION TIME (GMT)			YEAR	ORIGINATOR'S		DEPTH TO BOTTOM	MAX. DEPTH OF S'PL'S	WAVE OBSERVATIONS			WEA- THER CODE	CLOUD CODES		NODC STATION NUMBER	
CTRY CODE	ID. NO.					10"	1"	MO	DAY	HR.1/10		CRUISE NO.	STATION NUMBER			DIR	HGT	PER		SEA	TYPE		AMT
311089	NW	68300N	167360W	233	87	07	17	002	1967	681	040	0049	00	01	5			X4	X	9	0040		
		WATER		WIND		BARO- METER		AIR TEMP. °C		VIS. CODE		NO. OBS. DEPTHS		SPECIAL OBSERVATIONS									
		COLOR CODE	TRANS. (m)	DIR.	SPEED OR FORCE	DRY BULB	WET BULB																
					04	522	998	083		078		2											
MESSAGE TIME HR 1/10	CARD NO.	CARD TYPE	DEPTH (m)	T °C	S ‰	SIGMA-T	SPECIFIC VOLUME ANOMALY- σ_t	$\Sigma \Delta \rho$ DYN. M. $\times 10^3$	SOUND VELOCITY	O ₂ ml/l	PO ₄ -P $\mu\text{g} - \text{at/l}$	TOTAL-P $\mu\text{g} - \text{at/l}$	NO ₂ -N $\mu\text{g} - \text{at/l}$	NO ₃ -N $\mu\text{g} - \text{at/l}$	SiO ₄ -Si $\mu\text{g} - \text{at/l}$	pH	S CODE						
		STD	0000	0755	3151	2462	0033258	0000	14766														
002		OBS	0000	0755	31510	2462			14766														
002		OBS	0005	0757	31509	2462			14768														
		STD	0010	0753	3151	2463	0033244	0033	14767														
002		OBS	0010	0753	31510	2463			14767														
002		OBS	0016	0726	31636	2476			14759														
		STD	0020	0676	3199	2511	0028691	0064	14745														
002		OBS	0021	0638	32053	2520			14731														
002		OBS	0026	0293	32178	2566			14589														
		STD	0030	0235	3231	2582	0021909	0090	14566														
002		OBS	0031	0225	32332	2584			14562														
002		OBS	0037	0209	32376	2589			14557														
002		OBS	0042	0209	32360	2588			14557														

REFERENCE		SHIP CODE	LATITUDE ° 1/10	LONGITUDE ° 1/10	DATE MO DAY	MARSDEN SQUARE		STATION TIME (GMT)			YEAR	ORIGINATOR'S		DEPTH TO BOTTOM	MAX. DEPTH OF S'PL'S	WAVE OBSERVATIONS				WEA- THER CODE	CLOUD CODES		NODC STATION NUMBER		
CTRY CODE	ID. NO.					10"	1"	MO	DAY	HR./10		CRUISE NO.	STATION NUMBER			DIR	HGT	PER	SEA		TYPE	AMT			
311089	NW	68060N	167180W	233	87	07	17	025	1967	681	041	0049	00	00	0				X4	4	6	0041			
					WATER			WIND		BARO- METER		AIR TEMP. °C		VIS. CODE	NO. OBS. DEPTHS	SPECIAL OBSERVATIONS									
					COLOR CODE		TRANS. (m)		DIR. SPEED OR FORCE		(mbs)		DRY BULB				WET BULB								
							03		S15		945		072		067		2								
MESSAGE TIME HR 1/10	CARD NO.	CARD TYPE	DEPTH (m)	T °C	S ‰	SIGMA-T		SPECIFIC VOLUME ANOMALY-σ _t		Σ Δ ρ DYN. M. x 10 ³		SOUND VELOCITY	O ₂ ml/l	PO ₄ -P μg - at/l	TOTAL-P μg - at/l	NO ₂ -N μg - at/l	NO ₃ -N μg - at/l	SiO ₄ -Si μg - at/l	pH	S CODE					
		STD	0000	0787	3102	2420		0037307		0000		14773													
025		OBS	0000	0787	31024	2420						14773													
025		OBS	0005	0789	31042	2421						14774													
		STD	0010	0783	3116	2431		0036237		0037		14774													
025		OBS	0010	0783	31162	2431						14774													
025		OBS	0016	0279	31876	2544						14577													
		STD	0020	0245	3210	2564		0023572		0067		14566													
025		OBS	0021	0241	32127	2567						14565													
025		OBS	0026	0242	32130	2567						14566													
		STD	0030	0241	3213	2567		0023319		0090		14566													
025		OBS	0031	0241	32125	2566						14566													
025		OBS	0037	0242	32132	2567						14568													

REFERENCE		SHIP CODE	LATITUDE ° 1/10	LONGITUDE ° 1/10	DATE MO DAY	MARSDEN SQUARE		STATION TIME (GMT)		YEAR	ORIGINATOR'S		DEPTH TO BOTTOM	MAX. DEPTH OF S'PL'S	WAVE OBSERVATIONS			WEA- THER CODE	CLOUD CODES		NODC STATION NUMBER	
CTRY CODE	ID. NO.					10"	1"	MO	DAY		HR./10	CRUISE NO.			STATION NUMBER	DIR	HGT		PER	TYPE		AMT
311089	NW	68120N	167180W	233	87	07	17	044	1967	681	042	0053	00	32	3			X2	7	8	0042	
		WATER		WIND		BARO- METER		AIR TEMP. °C		VIS. CODE		NO. OBS. DEPTHS		SPECIAL OBSERVATIONS								
		COLOR CODE		TRANS. (m)		DIR.		SPEED OR FORCE		DRY BULB		WET BULB										
				36		520		944		078		067		7								
MESSAGE TIME HR 1/10	CARD NO.	CARD TYPE	DEPTH (m)	T °C	S ‰	SIGMA-T		SPECIFIC VOLUME ANOMALY- σ_t		$\Sigma \Delta \rho$ DYN. M. $\times 10^3$		SOUND VELOCITY		O ₂ ml/l	PO ₄ -P $\mu\text{g} - \text{at/l}$	TOTAL-P $\mu\text{g} - \text{at/l}$	NO ₂ -N $\mu\text{g} - \text{at/l}$	NO ₃ -N $\mu\text{g} - \text{at/l}$	SiO ₄ -Si $\mu\text{g} - \text{at/l}$	pH	S CODE	
		STD	0000	0779	3106	2424		0036940		0000		14770		699								
044		OBS	0000	0779	31059	2424						14770		699								
044		OBS	0005	0780	31061	2424						14771		706								
		STD	0010	0777	3107	2425		0036836		0037		14771		703								
044		OBS	0010	0777	31071	2425						14771		703								
044		OBS	0016	0721	31402	2458						14754		717								
		STD	0020	0432	3152	2501		0029541		0070		14639		735								
044		OBS	0021	0392	31537	2507						14622		739								
044		OBS	0026	0382	31524	2507						14618		754								
		STD	0030	0381	3153	2507		0029001		0099		14619		748								
044		OBS	0031	0381	31532	2507						14619		747								
044		OBS	0037	0381	31535	2508						14620		747								

REFERENCE		SHIP CODE	LATITUDE ° 1/10	LONGITUDE ° 1/10	UNIT INCHES	MARS DEN SQUARE		STATION TIME (GMT)			YEAR	ORIGINATOR'S		DEPTH TO BOTTOM	MAX. DEPTH OF S'AMPL'S	WAVE OBSERVATIONS				WEA- THER CODE	CLOUD CODES		NODC STATION NUMBER			
						10"	1"	MO	DAY	HR.1/10		CRUISE NO.	STATION NUMBER			DIR.	HGT	PER	SEA		TYPE	AMT				
31	1089	NW	6500'N	167310'W		233	57	07	18	043	1967	EE2	043	0031	00	17	1			X4	4	6	0043			
						WATER		WIND		AIR TEMP. °C		BARO- METER (mb)	VIS. CODE	NO. OBS. DEPTHS	SPECIAL OBSERVATIONS											
						COLOR CODE	TRANS. (m)	DIR.	SPEED OR FORCE	DRY BULB	WET BULB															
									17	51R	944	106	089	2												
MESSAGE TIME HR 1/10	CARD NO.	CARD TYPE	DEPTH (m)	T °C	S ‰	SIGMA-T	SPECIFIC VOLUME ANOMALY-σ _t	Σ Δ D DYN. M. x 10 ³	SOUND VELOCITY	O ₂ ml/l	PO ₄ -P μg - at/l	TOTAL-P μg - at/l	NO ₂ -N μg - at/l	NO ₃ -N μg - at/l	SiO ₄ -Si μg - at/l	pH	S C									
		STD	0000	0785	3049	2378	0041303	0000	14765	663																
	043	OBS	0000	0785	30485	2378			14765	663																
	043	OBS	0005	0785	30486	2378			14766	674																
		STD	0010	0781	3049	2379	0041195	0041	14765	676																
	043	OBS	0010	0781	30494	2379			14765	676																
	043	OBS	0016	0782	30498	2379			14766	665																
		STD	0020	0782	3051	2380	0041123	0082	14767	667																
	043	OBS	0021	0782	30509	2380			14767	669																

REFERENCE		SHIP CODE	LATITUDE ° 1/10	LONGITUDE ° 1/10	ORIG INCH	MARS DEN SQUARE		STATION TIME IGMT			YEAR	ORIGINATOR'S		DEPTH TO BOTTOM	MAX. DEPTH OF S'AMPL'S	WAVE OBSERVATIONS				WEA- THER CODE	CLOUD CODES		NODC STATION NUMBER
CTRY CODE	ID. NO.					10"	1"	MO	DAY	HR.1/10		CRUISE NO.	STATION NUMBER			DIR.	HGT	PER	SEA		TYPE	AMT	
31	1089	NW	65000N	167480W		233	57	07	18	059	1967	EE2	044	0045	00	12	1			X3	X	9	0044
		WATER COLOR CODE	TRANS. (m)	DIR.	WIND SPEED OF FORCE	BARO- METER (mb)	AIR TEMP. °C		VIS. CODE	NO. OBS. DEPTHS	SPECIAL OBSERVATIONS												
							DRY BULB	WET BULB															
					16	513	938	094	083	6													
MESSAGE TIME HR 1/10	CARD NO.	CARD TYPE	DEPTH (m)	T °C	S ‰	SIGMA-T	SPECIFIC VOLUME ANOMALY- σ_t	$\Sigma \Delta$ D DYN. M. $\times 10^3$	SOUND VELOCITY	O ₂ ml/l	PO ₄ -P $\mu\text{g} - \text{at/l}$	TOTAL-P $\mu\text{g} - \text{at/l}$	NO ₂ -N $\mu\text{g} - \text{at/l}$	NO ₃ -N $\mu\text{g} - \text{at/l}$	SiO ₄ -Si $\mu\text{g} - \text{at/l}$	pH	S C						
		STD	0000	0725	3166	2478	0031764	0000	14757	713													
	050	OBS	0000	0725	31658	2478			14757	713													
	059	OBS	0005	0712	31816	2492			14754	713													
		STD	0010	0661	3194	2509	0028869	0030	14737	719													
	059	OBS	0010	0661	31940	2509			14737	719													
	059	OBS	0016	0387	31651	2532			14623	748													
		STD	0020	0328	3180	2533	0026497	0058	14598	742													
	050	OBS	0021	0320	31792	2533			14595	741													
	059	OBS	0026	0321	31792	2533			14596	736													
		STD	0030	0321	3180	2534	0026473	0084	14597	740													
	059	OBS	0031	0321	31797	2534			14597	741													
	059	OBS	0037	0325	31798	2534			14600	745													

REFERENCE		SHIP CODE	LATITUDE ° 1/10	LONGITUDE ° 1/10	UNIT INCHES	MARS DEN SQUARE		STATION TIME (GMT)			YEAR	ORIGINATOR'S		DEPTH TO BOTTOM	MAX. DEPTH OF S'MPL'S	WAVE OBSERVATIONS				WEA- THER CODE	CLOUD CODES		NODC STATION NUMBER
CTRY CODE	ID. NO.					10"	1"	MO	DAY	HR.1/10		CRUISE NO.	STATION NUMBER			DIR.	HGT	PER	SEA		TYPE	AMT	
31	1089	NW	6454N	168180W		233	48	07	18	083	1967	EE2	045	0051	00	18	2			X4	X	9	0045
		WATER		WIND		AIR TEMP. °C		VIS. CODE		NO. OBS. DEPTHS		SPECIAL OBSERVATIONS											
		COLOR CODE	TRANS. mm	DIR.	SPEED OR FORCE	BARO- METER (mb)	DRY BULB							WET BULB									
						18	514	925	078	072	6												
MESSAGE TIME HR 1/10	CARD NO.	CARD TYPE	DEPTH (m)	T °C	S ‰	SIGMA-T	SPECIFIC VOLUME ANOMALY- σ_t	$\Sigma \Delta$ D DYN. M. $\times 10^3$	SOUND VELOCITY	O ₂ ml/l	PO ₄ -P $\mu\text{g} - \text{at/l}$	TOTAL-P $\mu\text{g} - \text{at/l}$	NO ₂ -N $\mu\text{g} - \text{at/l}$	NO ₃ -N $\mu\text{g} - \text{at/l}$	SiO ₄ -Si $\mu\text{g} - \text{at/l}$	pH	S C						
		STD	0000	0686	3247	2547	0025189	0000	14752	725													
	083	OBS	0000	0686	32472	2547			14752	725													
	083	OBS	0005	0684	32476	2548			14752	721													
		STD	0010	0680	3248	2548	0025089	0025	14751	724													
	083	OBS	0010	0680	32477	2548			14751	724													
	083	OBS	0016	0619	32422	2552			14727	719													
		STD	0020	0485	3235	2562	0023821	0050	14672	709													
	083	OBS	0021	0456	32333	2563			14660	707													
	083	OBS	0026	0337	32307	2573			14610	696													
		STD	0030	0334	3229	2572	0022650	0073	14609	700													
	083	OBS	0031	0333	32282	2571			14609	701													
	083	OBS	0037	0332	32276	2571			14609	695													
	083	OBS	0042	0331	32277	2571			14609	692													

REFERENCE		SHIP CODE	LATITUDE 1/10	LONGITUDE 1/10	ORIP INSTR	MARS DEN SQUARE		STATION TIME (GMT)			YEAR	ORIGINATOR'S		DEPTH TO BOTTOM	MAX. DEPTH OF S'MPL'S	WAVE OBSERVATIONS				WEA- THER CODE	CLOUD CODES		NODC STATION NUMBER
CITY CODE	ID. NO.					10°	1°	MO	DAY	HR./10		CRUISE NO.	STATION NUMBER			DIR.	HGT.	PER.	SEA		TYPE	AMT.	
311	184	NW	6444 N	16846 W		33	48	07	18	101	1967	EE2	046	0051	00	17	2			X4	X19		0046
						WATER		WIND		BARO- METER (mb)	AIR TEMP. °C		VIS CODE	NO. OBS. DEPTHS	SPECIAL OBSERVATIONS								
						COLOR CODE	TRANS. (m)	DIR.	SPEED OR FORCE		DRY BULB	WET BULB											
								19	507	915	072	072	-										
MISSING TIME OF HR 1/10	CARD NO.	CARD TYPE	DEPTH (m)	T °C	S ‰	SIGMA-T	SPECIFIC VOLUME ANOMALY- σ_t	$\Sigma \Delta$ D DYN. M. $\times 10^3$	SOUND VELOCITY	O ₂ ml/l	PO ₄ -P $\mu\text{g - dl/l}$	TOTAL-P $\mu\text{g - dl/l}$	NO ₃ -N $\mu\text{g - dl/l}$	NO ₂ -N $\mu\text{g - dl/l}$	SiO ₄ -Si $\mu\text{g - dl/l}$	pH	S	C					
		STD	0000	0610	3266	2572	0022858	0000	14724	689													
	101	OBS	0000	0610	32662	2572			14724	689													
	101	OBS	0005	0609	32667	2572			14724	689													
		STD	0010	0603	3267	2573	0022705	0023	14723	698													
	101	OBS	0010	0605	32671	2573			14723	698													
	101	OBS	0016	0601	32660	2573			14725	693													
		STD	0020	0601	3267	2573	0022700	0045	14724	690													
	101	OBS	0021	0601	32671	2574			14724	689													
	101	OBS	0026	0600	32683	2575			14724	697													
		STD	0030	0599	3268	2575	0022615	0068	14725	692													
	101	OBS	0031	0599	32676	2574			14725	691													
	101	OBS	0037	0596	32678	2574			14725	683													
	101	OBS	0042	0587	32681	2576			14722	688													

REFERENCE		SHIP CODE	LATITUDE * 1/10	LONGITUDE * 1/10	ORBIT INSTR	MARS DEN SQUARE		STATION TIME (GMT)			YEAR	ORIGINATOR'S		DEPTH TO BOTTOM	MAX. DEPTH OF S'MPL'S	WAVE OBSERVATIONS				WEA- THER CODE	CLOUD CODES		NODC STATION NUMBER
CTRY CODE	ID. NO.					10°	1°	MO	DAY	HR./10		CRUISE NO.	STATION NUMBER			DIR.	HGT	PER	SEA		TYPE	AMT	
31	1089	NW	6454 N	16900 W		233	49	07	18	122	1967	EE2	047	0053	00	23	2			X4	X19		0047
						WATER		WIND		BARO- METER		AIR TEMP. °C		VIS. CODE	NO. OBS. DEPTHS	SPECIAL OBSERVATIONS							
						COLOR CODE	TRANS (m)	DIR.	SPEED OR FORCE	(mb)		DRY BULB	WET BULB										
								26	506	907	078	078	1										
MESSNGR TIME OF HR 1/10	CARD NO.	CARD TYPE	DEPTH (m)	T °C	S ‰	SIGMA-T	SPECIFIC VOLUME ANOMALY- σ_t	$\Sigma \Delta$ D DYN. M. $\times 10^3$	SOUND VELOCITY	O ₂ ml/l	PO ₄ -P $\mu\text{g - dl/l}$	TOTAL-P $\mu\text{g - dl/l}$	NO ₃ -N $\mu\text{g - dl/l}$	NO ₂ -N $\mu\text{g - dl/l}$	SiO ₄ -Si $\mu\text{g - dl/l}$	pH	S	C					
		STD	0000	0308	3278	2613	0018929	0000	14599	744													
	122	OBS	0000	0308	32778	2613			14599	744													
	122	OBS	0005	0304	32796	2615			14599	755													
		STD	0010	0300	3280	2615	0018694	0019	14598	752													
	122	OBS	0010	0300	32801	2615			14598	752													
	122	OBS	0016	0269	32814	2619			14586	731													
		STD	0020	0249	3282	2621	0018148	0037	14578	723													
	122	OBS	0021	0245	32824	2622			14576	721													
	122	OBS	0026	0227	32835	2624			14569	714													
		STD	0030	0225	3285	2625	0017746	0055	14569	714													
	122	OBS	0031	0225	32851	2626			14569	714													
	122	OBS	0037	0225	32843	2625			14570	705													
	122	OBS	0042	0225	32840	2625			14571	711													

REFERENCE		SHIP CODE	LATITUDE 1/10	LONGITUDE 1/10	DEPTH METER	MARS DEN SQUARE		STATION TIME (GMT)			YEAR	ORIGINATOR'S		DEPTH TO BOTTOM	MAX. DEPTH OF S'MPL'S	WAVE OBSERVATIONS				WEATHER CODE	CLOUD CODES		NODC STATION NUMBER	
CTRY CODE	ID. NO.					10°	1°	MO	DAY	HR./10		CRUISE NO.	STATION NUMBER			DIR.	HGT	PER	SEA		TYPE	AMT		
311	1089	NW	64460N	169360W	233	49	07	18	147	1967	EE2	048	0053	00	23	2			X4	X19		0048		
					WATER		WIND		BARO-METER (mbs)		AIR TEMP. °C		VIS. CODE	NO. OBS. DEPTHS	SPECIAL OBSERVATIONS									
					COLOR CODE	TRANS. (m)	DIR.	SPEED OF FORCE	DRY BULB	WET BULB	DRY BULB	WET BULB												
								36	510	906	039	039	1											
MESSNGR TIME OF HR 1/10	CARD NO.	CARD TYPE	DEPTH (m)	T °C	S ‰	SIGMA-T	SPECIFIC VOLUME ANOMALY- σ_t	$\Sigma \Delta$ D DYN. M. $\times 10^3$	SOUND VELOCITY	O ₂ ml/l	PO ₄ -P $\mu\text{g - dl/l}$	TOTAL-P $\mu\text{g - dl/l}$	NO ₃ -N $\mu\text{g - dl/l}$	NO ₂ -N $\mu\text{g - dl/l}$	SiO ₄ -Si $\mu\text{g - dl/l}$	pH	S	C						
		STD	0000	0258	3284	2622	0018090	0000	14578	721														
	147	OBS	0000	0258	32836	2622			14578	721														
	147	OBS	0005	0258	32839	2622			14579	721														
		STD	0010	0258	3284	2622	0018085	0018	14580	739														
	147	OBS	0010	0258	32837	2622			14580	739														
	147	OBS	0016	0259	32840	2622			14582	740														
		STD	0020	0260	3284	2622	0018065	0036	14583	732														
	147	OBS	0021	0260	32843	2622			14583	730														
	147	OBS	0026	0249	32843	2623			14579	751														
		STD	0030	0210	3285	2627	0017642	0054	14563	722														
	147	OBS	0031	0203	32850	2627			14560	717														
	147	OBS	0037	0190	32854	2628			14555	712														
	147	OBS	0042	0178	32859	2630			14551	705														

REFERENCE		SHIP CODE	LATITUDE 1/10	LONGITUDE 1/10	MARS SQUARE	STATION TIME (GMT)			YEAR	ORIGINATOR'S		DEPTH TO BOTTOM	MAX. DEPTH OF S'MPL'S	WAVE OBSERVATIONS			WEA- THER CODE	CLOUD CODES		NODC STATION NUMBER	
CTRY CODE	ID. NO.					10"	1"	MO DAY HR.1/10		CRUISE NO.	STATION NUMBER			DIR.	HGT	PER		SEA	TYPE		AMT
31	175	44	44.5 N	171.10 W	254	41	17	13	171	1967	EE2	449	0053	00	21	1		X4	X19		0044
		WATER		WIND		BARO- METER (mb)	AIR TEMP. °C		VIS. CODE	NO. OBS. DEPTHS	SPECIAL OBSERVATIONS										
COLOR CODE	TRANS. (m)	DIR.	SPEED OF FORCE	DRY BULB	WET BULB		DRY BULB	WET BULB													
			32	510	912		24.4	23.9	5												
MESSAGE TIME HR. 1/10	CARD NO.	CARD TYPE	DEPTH (m)	T °C	S ‰	SIGMA-T	SPECIFIC VOLUME ANOMALY- σ_t	$\Sigma \Delta D$ DYN. M. $\times 10^3$	SOUND VELOCITY	O ₂ ml/l	PO ₄ -P $\mu g - at/l$	TOTAL-P $\mu g - at/l$	NO ₃ -N $\mu g - at/l$	NO ₃ -N $\mu g - at/l$	SIO ₄ -Si $\mu g - at/l$	pH	CTD				
		STD	0000	0278	3292	2627	0017611	0000	14588	698											
	171	OBS	0000	0278	3292	2627			14588	698											
	171	OBS	0005	0280	3292	2627			14540	689											
		STD	0010	0257	3292	2628	0017481	0018	14581	688											
	171	OBS	0010	0257	3291	2628			14581	688											
	171	OBS	0016	0255	3293	2630			14581	716											
		STD	0021	0261	3295	2630	0017205	0035	14585	713											
	171	OBS	0021	0262	3294	2630			14585	712											
	171	OBS	0026	0265	3296	2631			14587	711											
		STD	0030	0261	3297	2632	0017110	0052	14587	699											
	171	OBS	0031	0260	3297	2632			14586	695											
	171	OBS	0037	0261	3299	2634			14588	559											
	171	OBS	0042	0262	3299	2634			14589	669											

REFERENCE		SHIP CODE	LATITUDE 1/10	LONGITUDE 1/10	DEPTH METER	MARSDEN SQUARE	STATION TIME (GMT)			YEAR	ORIGINATOR'S		DEPTH TO BOTTOM	MAX. DEPTH OF S'MPL'S	WAVE OBSERVATIONS			WEA- THER CODE	CLOUD CODES		NODC STATION NUMBER
CTRY CODE	ID. NO.						10"	1"	MO DAY HR.1/10		CRUISE NO.	STATION NUMBER			DIR.	HGT	PER		SEA	TYPE	
31	176	44	45.4 N	171.30 W	254	40	7	18	197	1967	EE2	050	0046	00	32	2		X2	X19		0050
							WATER		WIND		BARO- METER (mbs)	AIR TEMP. °C		VIS. CODE	NO. OBS. DEPTHS	SPECIAL OBSERVATIONS					
		COLOR CODE	TRANS. (m)	DIR.	SPEED OF FORCE	DRY BULB		WET BULB													
					32	516	920		061	056	5										
MESSAGE TIME HR. 1/10	CARD NO.	CARD TYPE	DEPTH (m)	T °C	S ‰	SIGMA-T	SPECIFIC VOLUME ANOMALY- σ_t	$\Sigma \Delta D$ DYN. M. $\times 10^3$	SOUND VELOCITY	O ₂ ml/l	PO ₄ -P $\mu g - at/l$	TOTAL-P $\mu g - at/l$	NO ₃ -N $\mu g - at/l$	NO ₃ -N $\mu g - at/l$	SIO ₄ -Si $\mu g - at/l$	pH	CTD				
		STD	0000	0326	3320	2645	0015886	0000	14613	623											
	197	OBS	0000	0326	3320	2645			14613	623											
	197	OBS	0005	0321	3319	2645			14611	627											
		STD	0010	0318	3319	2645	0015894	0016	14611	620											
	197	OBS	0010	0318	3319	2645			14611	620											
	197	OBS	0016	0309	3320	2647			14608	607											
		STD	0020	0307	3322	2648	0015621	0032	14608	603											
	197	OBS	0021	0305	3321	2648			14608	602											
	197	OBS	0026	0292	3322	2650			14603	600											
		STD	0030	0272	3323	2652	0015231	0047	14595	598											
	197	OBS	0031	0268	3323	2653			14593	597											
	197	OBS	0037	0253	3324	2655			14588	586											

REFERENCE		SHIP CODE	LATITUDE 1/10	LONGITUDE 1/10	WATER INDIC	MARSDEN SQUARE		STATION TIME (GMT)			YEAR	ORIGINATOR'S		DEPTH TO BOTTOM	MAX. DEPTH OF S'MPL'S	WAVE OBSERVATIONS			WEA- THER CODE	CLOUD CODES		NODC STATION NUMBER
CTRY CODE	ID. NO.					10"	1"	MO	DAY	HR.1/10		CRUISE NO.	STATION NUMBER			DIR.	HGT	PER		SEA	TYPE	
31	177	44	0454.4N	1712.0W	254	41	17	18	003	1967	EE2	051	0047	00	34	2		X2	X19		0051	
		WATER		WIND		BARO- METER (mbs)	AIR TEMP. °C		VIS. CODE	NO. OBS. DEPTHS	SPECIAL OBSERVATIONS											
COLOR CODE	TRANS. (m)	DIR.	SPEED OF FORCE	DRY BULB	WET BULB																	
			34	512	935	078	067	5														
MESSAGE TIME HR. 1/10	CARD NO.	CARD TYPE	DEPTH (m)	T °C	S ‰	SIGMA-T	SPECIFIC VOLUME ANOMALY- σ_t	$\Sigma \Delta D$ DYN. M. $\times 10^3$	SOUND VELOCITY	O ₂ ml/l	PO ₄ -P $\mu g - at/l$	TOTAL-P $\mu g - at/l$	NO ₃ -N $\mu g - at/l$	NO ₃ -N $\mu g - at/l$	SiO ₄ -Si $\mu g - at/l$	pH						
		STD	0000	0441	3260	2586	0021518	0000	14653	783												
	203	OBS	0000	0441	3259	2586			14653	783												
	203	OBS	0005	0308	3305	2635			14604	629												
		STD	0010	0274	3313	2644	0016032	0019	14591	610												
	203	OBS	0010	0274	3312	2644			14591	610												
	203	OBS	0016	0273	3316	2647			14592	582												
		STD	0020	0271	3319	2644	0015551	0035	14592	579												
	203	OBS	0021	0270	3319	2649			14592	578												
	203	OBS	0026	0268	3320	2650			14592	569												
		STD	0030	0268	3320	2650	0015426	0050	14593	581												
	203	OBS	0031	0268	3319	2650			14593	582												
	203	OBS	0037	0264	3319	2650			14592	574												
	203	OBS	0042	0256	3323	2652			14590	569												

REFERENCE		SHIP CODE	LATITUDE ° 1/10	LONGITUDE ° 1/10	DRIFT INCHES	MARS SQUARE		STATION TIME (GMT)			YEAR	ORIGINATOR'S		DEPTH TO BOTTOM	MAX. DEPTH OF S'MPL'S	WAVE OBSERVATIONS			WEA- THER CODE	CLOUD CODES		NODC STATION NUMBER
CTRY CODE	ID. NO.					10"	1"	MO	DAY	HR./10		CRUISE NO.	STATION NUMBER			DIR	HGT PER	SEA		TYPE	AMT	
31	1084	VW	65 00'N	171 26'W	234	51	07	19	002	1967	EE2	052	0040	00	34	1			X2	A	9	0052
						WATER		WIND		BARO- METER (mb)	AIR TEMP. °C		VIS CODE	NO. OBS. DEPTHS	SPECIAL OBSERVATIONS							
						COLOR CODE	TRANS. (m)	DIR.	SPEED OF FORCE		DRY BULB	WET BULB										
								34	523	942	078	012	7									
MESSNGR TIME HR 1/10	CST NO.	CARD TYPE	DEPTH (m)	T °C	S ‰	SIGMA-T	SPECIFIC VOLUME ANOMALY- σ_{θ}	$\Sigma \Delta D$ DYN. M. $\times 10^3$	SOUND VELOCITY	O ₂ ml/l	PO ₄ -P $\mu\text{g} - \text{dl/l}$	TOTAL-P $\mu\text{g} - \text{dl/l}$	NO ₃ -N $\mu\text{g} - \text{dl/l}$	NO ₃ -N $\mu\text{g} - \text{dl/l}$	SiO ₄ -Si $\mu\text{g} - \text{dl/l}$	pH	COND.					
		STD	0000	0457	3260	2584	0021602	0000	14660													
		OBS	0000	0457	32547	2584			14660	9200												
		OBS	0005	0456	32600	2585			14661	9870												
		STD	0010	0379	3271	2601	0020069	0021	14631													
		OBS	0010	0379	32710	2601			14631	9670												
		OBS	0016	0170	33220	2659			14548	763												
		STD	0020	0090	3331	2672	0013360	0038	14514	719												
		OBS	0021	0078	33326	2674			14509	712												
		OBS	0026	0067	33356	2677			14505	697												
		STD	0030	0069	3342	2682	0014405	0050	14508	700												
		OBS	0031	0070	33426	2682			14508	701												
		OBS	0037	0051	33458	2686			14501	701												

REFERENCE		SHIP CODE	LATITUDE ° 1/10	LONGITUDE ° 1/10	DRIFT INCHES	MARS DEN SQUARE		STATION TIME (GMT)			YEAR	ORIGINATOR'S		DEPTH TO BOTTOM	MAX. DEPTH OF S'MPL'S	WAVE OBSERVATIONS			WEA- THER CODE	CLOUD CODES		NODC STATION NUMBER		
CTRY CODE	ID. NO.					10"	1"	MO	DAY	HR./10		CRUISE NO.	STATION NUMBER			DIR	HGT PER	SEA		TYPE	AMT			
31	1089	NW	6542'N	16954'W	233	59	07	19	099	1967	DD2	053	0044	00	36	4			X2	7	8	0053		
						WATER		WIND		BARO- METER (mb)	AIR TEMP. °C		VIS CODE	NO. OBS. DEPTHS	SPECIAL OBSERVATIONS									
						COLOR CODE	TRANS. (m)	DIR.	SPEED OR FORCE		DRY BULB	WET BULB												
								36	530	975	067	056	0											
MESSNGR TIME HR 1/10	CST NO.	CARD TYPE	DEPTH (m)	T °C	S ‰	SIGMA-T	SPECIFIC VOLUME ANOMALY- σ_{θ}	$\Sigma \Delta D$ DYN. M. $\times 10^3$	SOUND VELOCITY	O ₂ ml/l	PO ₄ -P $\mu\text{g} - \text{dl/l}$	TOTAL-P $\mu\text{g} - \text{dl/l}$	NO ₃ -N $\mu\text{g} - \text{dl/l}$	NO ₃ -N $\mu\text{g} - \text{dl/l}$	SiO ₄ -Si $\mu\text{g} - \text{dl/l}$	pH	COND.							
		STD	0000	0530	3264	2579	0022125	0000	14691															
199		OBS	0000	0530	32637	2579			14691	8770														
099		OBS	0005	0530	32637	2579			14692	8902														
		STD	0010	0229	3311	2646	0015175	0019	14571	674														
199		OBS	0010	0229	33113	2646			14571	674														
099		OBS	0016	0222	33151	2650			14570	619														
		STD	0020	0222	3315	2650	0015432	0035	14570	619														
099		OBS	0021	0222	33152	2650			14570	618														
099		OBS	0026	0222	33146	2649			14571	604														
		STD	0030	0221	3315	2650	0015443	0050	14572	598														
199		OBS	0031	0221	33154	2650			14572	596														
199		OBS	0037	0220	33155	2650			14572	576														

REFERENCE		SHIP CODE	LATITUDE ° 1/10	LONGITUDE ° 1/10	DRIFT INCHES	MARS SQUARE		STATION TIME (GMT)			YEAR	ORIGINATOR'S		DEPTH TO BOTTOM	MAX. DEPTH OF S'MPL'S	WAVE OBSERVATIONS			WEA- THER CODE	CLOUD CODES		NODC STATION NUMBER		
CTRY CODE	ID. NO.					10"	1"	MO	DAY	HR./10		CRUISE NO.	STATION NUMBER			DIR	HGT PER	SEA		TYPE	AMT			
31	1089	NW	6542'N	16948'W	233	59	07	19	113	1967	DD2	054	0031	00	35	2			X2	7	8	005		
						WATER		WIND		BARO- METER (mbs)	AIR TEMP. °C		VIS CODE	NO. OBS. DEPTHS	SPECIAL OBSERVATIONS									
						COLOR CODE	TRANS. (m)	DIR.	SPEED OF FORCE		DRY BULB	WET BULB												
								36	530	979	067	067	7											
MESSNGR TIME HR 1/10	CST NO.	CARD TYPE	DEPTH (m)	T °C	S ‰	SIGMA-T	SPECIFIC VOLUME ANOMALY- σ_{θ}	$\Sigma \Delta D$ DYN. M. $\times 10^3$	SOUND VELOCITY	O ₂ ml/l	PO ₄ -P $\mu\text{g} - \text{dl/l}$	TOTAL-P $\mu\text{g} - \text{dl/l}$	NO ₃ -N $\mu\text{g} - \text{dl/l}$	NO ₃ -N $\mu\text{g} - \text{dl/l}$	SiO ₄ -Si $\mu\text{g} - \text{dl/l}$	pH								
		STD	0000	0483	3283	2600	0020183	0000	14674															
113		OBS	0000	0483	32829	2600			14674															
113		OBS	0005	0471	32837	2602			14670															
		STD	0010	0453	3288	2607	0019501	0020	14664															
113		OBS	0010	0453	32880	2607			14664															
113		OBS	0016	0293	33095	2639			14500															
		STD	0020	0245	3313	2646	0015771	0037	14580															
113		OBS	0021	0238	33138	2647			14577															
113		OBS	0026	0234	33150	2649			14577															
		STD	0030	0231	3316	2649	0015471	0053	14576															
113		OBS	0031	0230	33158	2650			14576															
113		OBS	0037	0228	33166	2651			14576															

REFERENCE		SHIP CODE	LATITUDE ° 1/10	LONGITUDE ° 1/10	UNIT INCHES	MARS DEN SQUARE		STATION TIME (GMT)		YEAR	ORIGINATOR'S		DEPTH TO BOTTOM	MAX. DEPTH OF S'MPL'S	WAVE OBSERVATIONS			WEA- THER CODE	CLOUD CODES		NODC STATION NUMBER		
CTRY CODE	ID. NO.					10"	1"	MO	DAY		HR. 1/10	CRUISE NO.			STATION NUMBER	DIR.	HGT		PER	SEA		TYPE	AMT
311089	NW		0530N	169420W		233	59	07	19	127	1967	DD2	055	0053	00	35	2			X2	0	8	0055
						WATER		WIND		AIR TEMP. °C		VIS. CODE	NO. OBS. DEPTHS	SPECIAL OBSERVATIONS									
						COLOR CODE	TRANS. (m)	DIR.	SPEED OR FORCE	BARO- METER (mbars)	DRY BULB					WET BULB							
									35	526	042	056	044	7									
MESSAGE TIME HR 1/10	CARD NO.	CARD TYPE	DEPTH (m)	T °C	S ‰	SIGMA-T	SPECIFIC VOLUME ANOMALY- σ_t		$\Sigma \Delta \rho$ DYN. M. $\times 10^3$	SOUND VELOCITY	O ₂ ml/l	PO ₄ -P $\mu\text{g} \cdot \text{ml}^{-1}$	TOTAL-P $\mu\text{g} \cdot \text{ml}^{-1}$	NO ₂ -N $\mu\text{g} \cdot \text{ml}^{-1}$	NO ₃ -N $\mu\text{g} \cdot \text{ml}^{-1}$	SIO ₄ -Si $\mu\text{g} \cdot \text{ml}^{-1}$	pH	S °C					
		STD	0000	0434	3291	2611	0019086		0000	14655													
	127	OBS	0000	0434	32909	2611				14655	925.4												
	127	OBS	0005	0435	32903	2611				14655	925.4												
		STD	0010	0247	3311	2640	0016348		0018	14601	688												
	127	OBS	0010	0247	33104	2640				14601	688												
	127	OBS	0016	0248	33156	2648				14581	623												
		STD	0020	0236	3317	265	0015422		0034	14577	610												
	127	OBS	0021	0234	33170	2650				14576	607												
	127	OBS	0025	0234	33165	2650				14577	628												
		STD	0030	0233	3317	2650	0015381		0049	14577	617												
	127	OBS	0031	0233	33175	2651				14577	615												
	127	OBS	0037	0233	33170	2650				14578	612												
	127	OBS	0042	0233	33174	2651				14579	605												

REFERENCE		SHIP CODE	LATITUDE ° 1/10	LONGITUDE ° 1/10	UNIT INCHES	MARS SQUARE		STATION TIME (GMT)			YEAR	ORIGINATOR'S		DEPTH TO BOTTOM	MAX. DEPTH OF S'MPL'S	WAVE OBSERVATIONS			WEA- THER CODE	CLOUD CODES		NODC STATION NUMBER			
CTRY CODE	ID. NO.					10"	1"	MO	DAY	HR. 1/10		CRUISE NO.	STATION NUMBER			DIR.	HGT PER	SEA		TYPE	AMT				
311089		NW	6536CN	169360W		233	59	07	19	143	1967	DD2 056		0055	00	35	3			X2	6	8	0056		
						WATER		WIND		BARO- METER (mb)		AIR TEMP. °C		VIS CODE	NO. OBS. DEPTHS	SPECIAL OBSERVATIONS									
						COLOR CODE	TRANS. (m)	DIR.	SPEED OR FORCE		DRY BULB	WET BULB													
									36	520	987	056	044	7											
MESSAGE TIME HR 1/10	CARD NO.	CARD TYPE	DEPTH (m)	T °C	S ‰	SIGMA-T		SPECIFIC VOLUME ANOMALY-σ _t		Σ Δ ρ DYN. M. x 10 ³		SOUND VELOCITY	O ₂ ml/l	PO ₄ -P μg · ml/l	TOTAL-P μg · ml/l	NO ₂ -N μg · ml/l	NO ₃ -N μg · ml/l	SIO ₄ -Si μg · ml/l	pH	S °C					
		STD	0000	0411	3293	2616		0018682		0000		14645													
	143	OBS	0000	0411	32933	2616						14645	8650												
	143	OBS	0005	0410	32933	2616						14646	8733												
		STD	0010	0408	3293	2616		0018653		0019		14646													
	143	OBS	0010	0408	32934	2616						14646	8821												
	143	OBS	0016	0315	33021	2630						14608	722												
		STD	0020	0221	3300	2638		0016575		0036		14568	700												
	143	OBS	0021	0206	32998	2639						14561	696												
	143	OBS	0026	0188	32992	2640						14554	689												
		STD	0030	0187	33001	2640		0016350		0053		14555	692												
	143	OBS	0031	0187	32995	2640						14555	693												
	143	OBS	0037	0188	33000	2640						14556	686												
	143	OBS	0042	0191	33011	2641						14558	678												

REFERENCE		SHIP CODE	LATITUDE ° 1/10	LONGITUDE ° 1/10	UNIT INCHES	MARS DEN SQUARE		STATION TIME (GMT)		YEAR	ORIGINATOR'S		DEPTH TO BOTTOM	MAX. DEPTH OF S'MPL'S	WAVE OBSERVATIONS			WEA- THER CODE	CLOUD CODES		NODC STATION NUMBER					
CTRY CODE	ID. NO.					10"	1"	MO	DAY		HR. 1/10	CRUISE NO.			STATION NUMBER	DIR.	HGT		PER	SEA		TYPE	AMT			
311	1089	NW	0537N	169240W		233	59	07	19	158	1967	DD2	057	0053	00	10	2			X2	7	8		0057		
						WATER		WIND		BARO- METER		AIR TEMP. °C		VIS. CODE	NO. OBS. DEPTHS	SPECIAL OBSERVATIONS										
						COLOR CODE	TRANS. (m)	DIR.	SPEED OF FORCE	(mb)	DRY BULB	WET BULB														
									36	523	074	067	056	7												
MESSAGE TIME HR 1/10	CARD NO.	CARD TYPE	DEPTH (m)	T °C	S ‰	SIGMA-T		SPECIFIC VOLUME ANOMALY- σ_{θ}		$\Sigma \Delta \rho$ DYN. M. $\times 10^3$	SOUND VELOCITY	O ₂ ml/l	PO ₄ -P $\mu\text{g} \cdot \text{ml}^{-1}$	TOTAL-P $\mu\text{g} \cdot \text{ml}^{-1}$	NO ₂ -N $\mu\text{g} \cdot \text{ml}^{-1}$	NO ₃ -N $\mu\text{g} \cdot \text{ml}^{-1}$	SiO ₄ -Si $\mu\text{g} \cdot \text{ml}^{-1}$	pH	S °C							
		STD	0000	0446	3276	2598		0020326		0000	14658															
	158	OBS	0000	0446	32760	2598					14658															
	158	OBS	0005	0443	32758	2598					14657															
		STD	0010	0425	3277	2601		0020044		0020	14651															
	158	OBS	0010	0425	32771	2601					14651															
	158	OBS	0016	0380	32815	2609					14633															
		STD	0020	0365	3284	2613		0018967		0040	14628															
	158	OBS	0021	0362	32841	2613					14627															
	158	OBS	0026	0351	32852	2615					14623															
		STD	0030	0260	3287	2624		0017851		0058	14585															
	158	OBS	0031	0242	32876	2626					14577															
	158	OBS	0037	0181	32840	2628					14551															
	158	OBS	0042	0175	32846	2629					14549															

REFERENCE		SHIP CODE	LATITUDE ° 1/10	LONGITUDE ° 1/10	DRIFT INCHES	MARSDEN SQUARE		STATION TIME (GMT)			YEAR	ORIGINATOR'S		DEPTH TO BOTTOM	MAX. DEPTH OF S'AMPL'S	WAVE OBSERVATIONS			WEA- THER CODE	CLOUD CODES		NODC STATION NUMBER				
CTRY CODE	ID. NO.					10"	1"	MO	DAY	HR./10		CRUISE NO.	STATION NUMBER			DIR.	HGT	PER		SEA	TYPE		AMT			
31	1084	NW	65 20'N	169 12'W		233	54	07	19	170	1967	DD2	0058	0046	00	1	2		X2	6	8	0058				
						WATER		WIND		BARO- METER (mb)	AIR TEMP. °C		VIS. CODE	NO. OBS. DEPTHS	SPECIAL OBSERVATIONS											
						COLOR CODE	TRANS. mm	DIR.	SPEED OR FORCE		DRY BULB	WET BULB														
									35	526	998	072	050	7												
MESSAGE TIME HR 1/10	CAS NO.	CARD TYPE	DEPTH (m)	T °C	S ‰	SIGMA-T	SPECIFIC VOLUME ANOMALY- σ_t	$\Sigma \Delta D$ DYN. M. $\times 10^3$	SOUND VELOCITY	O ₂ ml/l	PO ₄ -P $\mu g - dl/l$	TOTAL-P $\mu g - dl/l$	NO ₂ -N $\mu g - dl/l$	NO ₃ -N $\mu g - dl/l$	SiO ₄ -Si $\mu g - dl/l$	pH	S CODE									
		STD	0030	0627	3256	2561		0023623	0000	14724	714															
170		OBS	0030	0627	32558	2561				14729	714															
170		OBS	0005	0627	32555	2561				14730	716															
		STD	0010	0627	3256	2561		0023857	0024	14731	724															
170		OBS	0010	0627	32555	2561				14731	724															
170		OBS	0016	0620	32557	2562				14729	719															
		STD	0020	0602	3261	2569		0023161	0047	14723	703															
170		OBS	0021	0594	32618	2570				14722	702															
170		OBS	0026	0597	32655	2573				14723	717															
		STD	0030	0564	3270	2577		0022346	0070	14721	724															
170		OBS	0031	0586	32702	2578				14720	725															
170		OBS	0037	0558	32691	2580				14709	717															

REFERENCE		SHIP CODE	LATITUDE ° 1/10	LONGITUDE ° 1/10	DRIFT INCHES	MARSDEN SQUARE		STATION TIME (GMT)			YEAR	ORIGINATOR'S		DEPTH TO BOTTOM	MAX. DEPTH OF S'AMPL'S	WAVE OBSERVATIONS				WEA- THER CODE	CLOUD CODES		NODC STATION NUMBER
CTRY CODE	ID. NO.					10"	1"	MO	DAY	HR./10		CRUISE NO.	STATION NUMBER			DIR.	HGT	PER	SEA		TYPE	AMT	
31	1084	NW	65 32'N	169 02'W		233	59	07	19	186	1967	DD2	0059	0055	00	33	2		X2	4	9		0059
						WATER		WIND		BARO- METER (mbs)	AIR TEMP. °C		VIS. CODE	NO. OBS. DEPTHS	SPECIAL OBSERVATIONS								
						COLOR CODE	TRANS. mm	DIR.	SPEED OR FORCE		DRY BULB	WET BULB											
									35	525	004	067	056	7									
MESSAGE TIME HR 1/10	CAS NO.	CARD TYPE	DEPTH (m)	T °C	S ‰	SIGMA-T	SPECIFIC VOLUME ANOMALY- σ_t		$\Sigma \Delta D$ DYN. M. $\times 10^3$	SOUND VELOCITY	O ₂ ml/l	PO ₄ -P $\mu g - dl/l$	TOTAL-P $\mu g - dl/l$	NO ₂ -N $\mu g - dl/l$	NO ₃ -N $\mu g - dl/l$	SiO ₄ -Si $\mu g - dl/l$	pH	S CODE					
		STD	0000	0730	3264	2554	0024505		0000	14771													
186		OBS	0000	0730	32639	2554				14771													
186		OBS	0005	0733	32640	2554				14773													
		STD	0010	0726	3263	2554	0024549		0025	14771													
186		OBS	0010	0726	32628	2554				14771													
186		OBS	0016	0690	32614	2558				14758													
		STD	0020	0585	3252	2564	0023638		0049	14715													
166		OBS	0021	0571	32506	2564				14709													
186		OBS	0026	0575	32517	2565				14712													
		STD	0030	0571	3251	2565	0023563		0072	14711													
186		OBS	0031	0553	32492	2565				14704													
186		OBS	0037	0301	32247	2571				14595													
186		OBS	0042	0299	32255	2572				14595													
186		OBS	0047	0303																			

REFERENCE		SHIP CODE	LATITUDE ° 1/10	LONGITUDE ° 1/10	DRIFT INCHES	MARSDEN SQUARE		STATION TIME (GMT)			YEAR	ORIGINATOR'S		DEPTH TO BOTTOM	MAX. DEPTH OF S'AMPL'S	WAVE OBSERVATIONS			WEA- THER CODE	CLOUD CODES		NODC STATION NUMBER
CTRY CODE	ID. NO.					10"	1"	MO	DAY	HR./10		CRUISE NO.	STATION NUMBER			DIR.	HGT	PER		SEA	TYPE	
31	1089	NW	65370N	168490W		233	58	07	19	20	1967	DD2	060	0053	00	35	2		X2	7	8	0060
						WATER		WIND		BARO- METER (mb)	AIR TEMP. °C		VIS CODE	NO. OBS. DEPTHS	SPECIAL OBSERVATIONS							
						COLOR CODE	TRANS. mm	DIR.	SPEED OR FORCE		DRY BULB	WET BULB										
									35	515	013	072	056	7								
MESSAGE TIME HR 1/10	CAS NO.	CARD TYPE	DEPTH (m)	T °C	S ‰	SIGMA-T	SPECIFIC VOLUME ANOMALY- σ_t	$\Sigma \Delta D$ DYN. M. $\times 10^3$	SOUND VELOCITY	O ₂ ml/l	PO ₄ -P $\mu g - dl/l$	TOTAL-P $\mu g - dl/l$	NO ₂ -N $\mu g - dl/l$	NO ₃ -N $\mu g - dl/l$	SiO ₄ -Si $\mu g - dl/l$	pH	S CODE					
		STD	0000	0488	3211	2542	0025662	0000	14667	752												
208		OBS	0000	0488	32107	2542			14667	752												
208		OBS	0005	0483	32117	2543			14665	752												
		STD	0010	0468	3219	2551	0024850	0025	14661	756												
208		OBS	0010	0468	32189	2551			14661	756												
208		OBS	0016	0483	32252	2554			14669	755												
		STD	0020	0501	3233	2558	0024142	0050	14678	736												
208		OBS	0021	0506	32332	2558			14680	731												
208		OBS	0026	0392	32252	2563			14632	766												
		STD	0030	0387	3224	2563	0023676	0074	14631	761												
208		OBS	0031	0386	32241	2563			14631	760												
208		OBS	0037	0377	32241	2564			14628	761												
208		OBS	0042	0369	32237	2564			14625	759												

REFERENCE		SHIP CODE	LATITUDE ° 1/10	LONGITUDE ° 1/10	DRIFT INDICATOR	MARSDEN SQUARE	STATION TIME (GMT)			YEAR	ORIGINATOR'S		DEPTH TO BOTTOM	MAX. DEPTH OF S'MPL'S	WAVE OBSERVATIONS			WEA- THER CODE	CLOUD CODES		NOOC STATION NUMBER				
CTRY CODE	ID. NO.						10"	1"	MO		DAY	HR.1/10			CRUISE NO.	STATION NUMBER	DIR		HGT	PER		SEA	TYPE	AMT	
311089		NW	65380N	168400W		233	58	07	19	223	1967	DD2	061		0051	00	35	3			X2	7	18		0061
						WATER		WIND		BARO- METER		AIR TEMP. °C		VIS CODE	NO. OBS. DEPTHS	SPECIAL OBSERVATIONS									
						COLOR CODE	TRANS. (m)	DIR.	SPEED OR FORCE	BARO- METER (mb)	DRY BULB	WET BULB													
									35	S10	016	061	050	7											
MESSAGE TIME HR 1/10	CST NO.	CARD TYPE	DEPTH (m)	T °C	S ‰	SIGMA-T	SPECIFIC VOLUME ANOMALY-σ _t °		Σ Δ D DYN. M. X 10 ³	SOUND VELOCITY	O ₂ ml/l	PO ₄ -P μg - at/l	TOTAL-P μg - at/l	NO ₂ -N μg - at/l	NO ₃ -N μg - at/l	SiO ₄ -Si μg - at/l	pH	CTD NO.							
		STD	0000	0463	3128	2479	0031629		0000	14645															
223		OBS	0000	0463	31281	2479				14645															
223		OBS	0005	0462	31280	2479				14646															
		STD	0010	0433	3131	2485	0031127		0031	14635															
223		OBS	0010	0433	31310	2485				14635															
223		OBS	0016	0414	31443	2497				14629															
		STD	0020	0351	3150	2508	0028959		0061	14604															
223		OBS	0021	0344	31540	2511				14602															
223		OBS	0026	0359	31894	2538				14614															
		STD	0030	0343	3190	2540	0025873		0089	14607															
223		OBS	0031	0339	31909	2541				14606															
223		OBS	0037	0430	32029	2542				14647															
223		OBS	0042	0501	32160	2545				14680															
223		OBS	0047	0450	32155	2550				14659															

REFERENCE CTRY CODE	ID. NO.	SHIP CODE	LATITUDE ° 1/10	LONGITUDE ° 1/10	DRIFT INDICATOR	MARSDEN SQUARE	STATION TIME (GMT)					YEAR	ORIGINATOR'S			DEPTH TO BOTTOM	MAX. DEPTH OF S'MPL'S	WAVE OBSERVATIONS			WEA- THER CODE	CLOUD CODES		NOOC STATION NUMBER			
							10"		1"		MO		DAY	HR. 1/10	CRUISE NO.			STATION NUMBER		DIR		HGT	PER		SEA	TYPE	AMT
							10"	1"	MO	DAY								HR. 1/10	CRUISE NO.								
311089		NW	65380N	168340W		233	58	07	19	235	1967	DD2	062		0055	00	31	3			X4	X	19	0062			
						WATER		WIND		BARO- METER		AIR TEMP. °C		VIS. CODE	NO. OBS. DEPTHS	SPECIAL OBSERVATIONS											
						COLOR CODE	TRANS. (m)	DIR.	SPEED OR FORCE	BARO- METER (mb)	DRY BULB	WET BULB															
									35	S14	022	067	057	1													
MESSAGE TIME HR 1/10	CST NO.	CARD TYPE	DEPTH (m)	T °C	S ‰	SIGMA-T	SPECIFIC VOLUME ANOMALY-σ _t °		Σ Δ D DYN. M. X 10 ³	SOUND VELOCITY	O ₂ ml/l	PO ₄ -P μg - at/l	TOTAL-P μg - at/l	NO ₂ -N μg - at/l	NO ₃ -N μg - at/l	SiO ₄ -Si μg - at/l	pH	CTD NO.									
		STD	0000	0743	3053	2387	0040400		0000	14749	675																
235		OBS	0000	0743	30533	2387				14749	675																
235		OBS	0005	0744	30531	2387				14750	685																
		STD	0010	0502	3119	2468	0032080		0037	14662	715																
235		OBS	0010	0502	31194	2468				14662	715																
235		OBS	0016	0454	31250	2478				14644	724																
		STD	0020	0424	3132	2486	0030972		0068	14633	718																
235		OBS	0021	0415	31336	2489				14629	717																
235		OBS	0026	0363	31431	2501				14609	740																
		STD	0030	0350	3154	2511	0028652		0098	14606	745																
235		OBS	0031	0345	31555	2512				14604	747																
235		OBS	0037	0308	31612	2520				14590	769																
235		OBS	0042	0285	31716	2530				14582	771																

REFERENCE		SHIP CODE	LATITUDE ° 1/10	LONGITUDE ° 1/10	DRIFT INDICATOR	MARSDEN SQUARE		STATION TIME (GMT)			YEAR	ORIGINATOR'S		DEPTH TO BOTTOM	MAX. DEPTH OF S'MPL'S	WAVE OBSERVATIONS				WEA- THER CODE	CLOUD CODES		NODC STATION NUMBER		
CTRY CODE	ID. NO.					10"	1"	MO	DAY	HR.1/10		CRUISE NO.	STATION NUMBER			DIR	HGT	PER	SEA		TYPE	AMT			
311	089	NW	65380N	168260W		233	58	07	20	008	1967	DD2	063		0053	00	31	3			X2	7	18		0063
						WATER		WIND		BARO- METER		AIR TEMP. °C		VIS. CODE	NO. OBS. DEPTHS	SPECIAL OBSERVATIONS									
						COLOR CODE	TRANS. (m)	DIR.	SPEED OR FORCE	BARO- METER (mb)	DRY BULB	WET BULB													
									35	S17	024	078	044												7
MESSAGE TIME HR 1/10	CST NO.	CARD TYPE	DEPTH (m)	T °C	S ‰	SIGMA-T		SPECIFIC VOLUME ANOMALY-σ _t °		Σ Δ D DYN. M. X 10 ³		SOUND VELOCITY	O ₂ ml/l	PO ₄ -P μg - at/l	TOTAL-P μg - at/l	NO ₂ -N μg - at/l	NO ₃ -N μg - at/l	SiO ₄ -Si μg - at/l	pH	CTD NO.					
		STD	0000	0876	2976	2308		0047985		0000		14790													
008		OBS	0000	0876	29755	2308						14790													
008		OBS	0005	0878	29767	2309						14792													
		STD	0010	0849	2987	2321		0046758		0047		14783													
008		OBS	0010	0849	29871	2321						14783													
008		OBS	0016	0779	30276	2362						14762													
		STD	0020	0753	3047	2381		0041021		0091		14755													
008		OBS	0021	0741	30526	2387						14752													
008		OBS	0026	0646	30816	2422						14718													
		STD	0030	0594	3097	2440		0035368		0129		14700													
008		OBS	0031	0584	30992	2443						14696													
008		OBS	0037	0550	31061	2453						14684													
008		OBS	0042	0529	31114	2459						14677													

REFERENCE		SHIP CODE	LATITUDE ° 1/10	LONGITUDE ° 1/10	DEPTH INCHES	MARSDEN SQUARE		STATION TIME (GMT)			YEAR	ORIGINATOR'S		DEPTH TO BOTTOM	MAX. DEPTH OF S'AMPL'S	WAVE OBSERVATIONS			WEA- THER CODE	CLOUD CODES		NOCC STATION NUMBER	
CTRY CODE	ID. NO.					10"	1"	MO	DAY	HR.1/10		CRUISE NO.	STATION NUMBER			DIR.	HGT	PER		SEA	TYPE		AMT
31	1089	NW	65380N	168180W		233	58	07	20	040	1967	002	064	0051	00	34	3			1	7	8	0064
						WATER		WIND		BARO- METER		AIR TEMP. °C		VIS. CODE	NO. OBS. DEPTHS	SPECIAL OBSERVATIONS							
						COLOR CODE	TRANS. (m)	DIR.	SPEED OF FORCE	(mbs)	(mbs)	DRY BULB	WET BULB										
								33	520	024	078	056	7										

MESSAGE TIME HR 1/10	CAST NO.	CARD TYPE	DEPTH (m)	T °C	S ‰	SIGMA-T	SPECIFIC VOLUME ANOMALY- σ_t	$\Sigma \Delta D$ DYN. M. $\times 10^3$	SOUND VELOCITY	O ₂ ml/l	PO ₄ -P $\mu g - \text{dl/l}$	TOTAL-P $\mu g - \text{dl/l}$	NO ₂ -N $\mu g - \text{dl/l}$	NO ₃ -N $\mu g - \text{dl/l}$	SiO ₄ -Si $\mu g - \text{dl/l}$	pH	S C
		STD	0000	0731	2936	2264	0051681	0000	14306	653							
	020	OBS	0000	0931	29364	2269			14806	653							
	020	OBS	0005	0930	29364	2265			14807	659							
		STD	0010	0901	2947	2282	005484	0051	14798	667							
	020	OBS	0010	0901	29468	2282			14798	667							
	020	OBS	0016	0888	29588	2293			14795	678							
		STD	0020	0889	2961	2295	0049271	0101	14797	663							
	020	OBS	0021	0889	29613	2295			14797	661							
	020	OBS	0026	0890	29637	2297			14798	658							
		STD	0030	0887	2964	2301	0048663	0150	14799	659							
	020	OBS	0031	0886	29702	2302			14799	659							
	020	OBS	0037	0879	29771	2309			14798	661							
	020	OBS	0042	0717	30624	2398			14747	684							

REFERENCE		SHIP CODE	LATITUDE ° 1/10	LONGITUDE ° 1/10	DRIFT INCHES	MARSDEN SQUARE		STATION TIME IGMT			YEAR	ORIGINATOR'S		DEPTH TO BOTTOM	MAX. DEPTH OF S'AMPL'S	WAVE OBSERVATIONS			WEA- THER CODE	CLOUD CODES		NOCC STATION NUMBER
CTRY CODE	IO. NO.					10"	1"	MO	DAY	HR.1/10		CRUISE NO.	STATION NUMBER			DIR.	HGT	PER		SEA	TYPE	
31	1089	NW	66250N	169450W		233	69	07	20	191	1967	CC2	065	0053	00	30	3		X2	7	8	0065
						WATER		WIND		BARO- METER		AIR TEMP. °C		VIS. CODE	NO. OBS. DEPTHS	SPECIAL OBSERVATIONS						
						COLOR CODE	TRANS. (m)	DIR.	SPEED OF FORCE	(mbs)	(mbs)	DRY BULB	WET BULB									
								05	507	037	056	044	7									

MESSAGE TIME HR 1/10	CAST NO.	CARD TYPE	DEPTH (m)	T °C	S ‰	SIGMA-T	SPECIFIC VOLUME ANOMALY- σ_t	$\Sigma \Delta D$ DYN. M. $\times 10^3$	SOUND VELOCITY	O ₂ ml/l	PO ₄ -P $\mu g - \text{dl/l}$	TOTAL-P $\mu g - \text{dl/l}$	NO ₂ -N $\mu g - \text{dl/l}$	NO ₃ -N $\mu g - \text{dl/l}$	SiO ₄ -Si $\mu g - \text{dl/l}$	pH	S C
		STD	0000	0604	3201	2521	0027634	0000	14713	807							
	191	OBS	0000	0604	32013	2521			14713	807							
	191	OBS	0005	0497	32172	2546			14672	796							
		STD	0010	0277	3242	2627	0017637	0023	14589	702							
	191	OBS	0010	0277	32915	2627			14589	702							
	191	OBS	0016	0252	33072	2640			14586	669							
		STD	0020	0264	3308	2641	0016309	0040	14587	644							
	191	OBS	0021	0264	33080	2641			14588	640							
	191	OBS	0026	0267	33086	2641			14588	635							
		STD	0030	0261	3309	2641	0016241	0056	14588	648							
	191	OBS	0031	0261	33085	2641			14588	650							
	191	OBS	0037	0261	33096	2641			14589	647							
	191	OBS	0042	0256	33090	2642			14589	635							

REFERENCE		SHIP CODE	LATITUDE ° 1/10	LONGITUDE ° 1/10	DEPTH INCHES	MARSDEN SQUARE		STATION TIME (GMT)			YEAR	ORIGINATOR'S		DEPTH TO BOTTOM	MAX. DEPTH OF S'AMPL'S	WAVE OBSERVATIONS			WEA- THER CODE	CLOUD CODES		NOCC STATION NUMBER	
CTRY CODE	ID. NO.					10"	1"	MO	DAY	HR.1/10		CRUISE NO.	STATION NUMBER			DIR.	HGT	PER		SEA	TYPE		AMT
31	1089	NW	66270N	169320W		233	69	07	20	216	1967	CC2	066	0057	00	31	3			X2	7	8	0066
						WATER		WIND		BARO- METER		AIR TEMP. °C		VIS. CODE	NO. OBS. DEPTHS	SPECIAL OBSERVATIONS							
						COLOR CODE	TRANS. (m)	DIR.	SPEED OF FORCE	(mbs)	(mbs)	DRY BULB	WET BULB										
								11	506	037	072	050	7										

MESSAGE TIME HR 1/10	CAST NO.	CARD TYPE	DEPTH (m)	T °C	S ‰	SIGMA-T	SPECIFIC VOLUME ANOMALY- σ_t	$\Sigma \Delta D$ DYN. M. $\times 10^3$	SOUND VELOCITY	O ₂ ml/l	PO ₄ -P $\mu g - \text{dl/l}$	TOTAL-P $\mu g - \text{dl/l}$	NO ₂ -N $\mu g - \text{dl/l}$	NO ₃ -N $\mu g - \text{dl/l}$	SiO ₄ -Si $\mu g - \text{dl/l}$	pH	S C
		STD	0000	0572	3234	2551	0024788	0000	14704								
	216	OBS	0000	0572	32344	2551			14704								
	216	OBS	0005	0545	32430	2561			14695								
		STD	0010	0282	3293	2627	0017579	0021	14592								
	216	OBS	0010	0282	32924	2627			14592								
	216	OBS	0016	0277	32936	2628			14591								
		STD	0020	0277	3294	2628	0017467	0039	14591								
	216	OBS	0021	0277	32940	2629			14592								
	216	OBS	0026	0275	32943	2629			14592								
		STD	0030	0269	3294	2629	0017400	0056	14590								
	216	OBS	0031	0268	32935	2629			14589								
	216	OBS	0037	0268	32935	2629			14590								
	216	OBS	0042	0266	32940	2629			14590								
	216	OBS	0047	0266	32944	2630			14591								

REFERENCE		SHIP CODE	LATITUDE ° 1/10	LONGITUDE ° 1/10	DUST INDEX	MARSDEN SQUARE		STATION TIME (GMT)			YEAR	ORIGINATOR'S		DEPTH TO BOTTOM	MAX. DEPTH OF S'MPL'S	WAVE OBSERVATIONS			WEATHER CODE	CLOUD CODES		NODC STATION NUMBER	
CTRY CODE	ID. NO.					10"	1"	MO	DAY	HR. 1/10		CRUISE NO.	STATION NUMBER			DIR.	HGT PER	SEA		TYPE	AMT		
31	1089	NW	66330N	169120W		23	69	07	20	237	1967	CC2	067	0053	00	27	1			X2	7	18	0067
						WATER		WIND		BARO-METER (mbs)		AIR TEMP. °C		VIS. CODE	NO. OBS. DEPTHS	SPECIAL OBSERVATIONS							
						COLOR CODE	TRANS. (m)	DIR.	SPEED OR FORCE			DRY BULB	WET BULB										
									38	506	036	067	044	7									
MESSAGE TIME OF HR 1/10	CAST NO.	CARD TYPE	DEPTH (m)	T °C	S ‰	SIGMA-T	SPECIFIC VOLUME ANOMALY-10 ³	Σ Δ ρ DYN. M. X 10 ³	SOUND VELOCITY	O ₂ ml/l	PO ₄ -P μg - at/l	TOTAL-P μg - at/l	NO ₂ -N μg - at/l	NO ₃ -N μg - at/l	SIO ₄ -Si μg - at/l	pH	SCC						
		STD	0000	0544	3248	2566	0023433	0000	14695	831													
	237	OBS	0000	0544	32483	2566			14695	831													
	237	OBS	0005	0480	32501	2573			14672	768													
		STD	0010	0483	3250	2574	0022057	0023	14671	760													
	237	OBS	0010	0483	32501	2574			14671	760													
	237	OBS	0016	0483	32500	2574			14672	750													
		STD	0020	0488	3255	2577	0022347	0046	14670	748													
	237	OBS	0021	0489	32567	2578			14677	747													
	237	OBS	0026	0462	32666	2589			14668	744													
		STD	0030	0461	3274	2595	0020653	0067	14669	754													
	237	OBS	0031	0461	32754	2596			14669	757													
	237	OBS	0037	0410	32813	2606			14649	712													
	237	OBS	0042	0387	32633	2610			14641	718													
	237	OBS	0047	0351	32660	2616			14627	703													

REFERENCE		SHIP CODE	LATITUDE ° 1/10	LONGITUDE ° 1/10	DUST INDEX	MARSDEN SQUARE		STATION TIME (GMT)			YEAR	ORIGINATOR'S		DEPTH TO BOTTOM	MAX. DEPTH OF S'MPL'S	WAVE OBSERVATIONS			WEATHER CODE	CLOUD CODES		NODC STATION NUMBER	
CTRY CODE	ID. NO.					10"	1"	MO	DAY	HR. 1/10		CRUISE NO.	STATION NUMBER			DIR.	HGT PER	SEA		TYPE	AMT		
31	1089	NW	66350N	160450W		233	68	07	21	035	1967	CC2	068	0051	00	31	2			X2	7	18	0068
						WATER		WIND		BARO-METER (mbs)	AIR TEMP. °C		VIS CODE	NO. OBS. DEPTHS	SPECIAL OBSERVATIONS								
						COLOR CODE	TRANS. (m)	DIR.	SPEED OR FORCE		DRY BULB	WET BULB											
								00	500	031	067	161	7										
MESSAGE TIME OF HR 1/10	CAST NO.	CARD TYPE	DEPTH (m)	T °C	S ‰	SIGMA-T	SPECIFIC VOLUME ANOMALY-10 ³			Σ Δ ρ DYN. M. X 10 ³	SOUND VELOCITY	O ₂ ml/l	PO ₄ -P μg - at/l	TOTAL-P μg - at/l	NO ₂ -N μg - at/l	NO ₃ -N μg - at/l	SIO ₄ -Si μg - at/l	pH	SCC				
		STD	0000	0522	3188	2521	0027701			0000	14678	770											
	035	OBS	0000	0522	31883	2521					14678	770											
	035	OBS	0005	0463	32304	2560					14650	769											
		STD	0010	0423	32414	2573	0022713			0025	14645	755											
	035	OBS	0010	0423	32414	2573					14645	755											
	035	OBS	0016	0433	32438	2574					14651	750											
		STD	0020	0420	3244	2575	0022527			0045	14646	744											
	035	OBS	0021	0417	32435	2575					14645	745											
	035	OBS	0026	0440	32482	2577					14656	745											
		STD	0030	0451	3253	2580	0022129			0070	14664	731											
	035	OBS	0031	0454	32552	2581					14663	727											
	035	OBS	0037	0468	32697	2591					14672	706											
	035	OBS	0042	0466	32778	2590					14672	685											

REFERENCE		SHIP CODE	LATITUDE ° 1/10	LONGITUDE ° 1/10	DUST INDEX	MARSDEN SQUARE		STATION TIME (GMT)			YEAR	ORIGINATOR'S		DEPTH TO BOTTOM	MAX. DEPTH OF S'MPL'S	WAVE OBSERVATIONS			WEATHER CODE	CLOUD CODES		NODC STATION NUMBER
CTRY CODE	ID. NO.					10"	1"	MO	DAY	HR. 1/10		CRUISE NO.	STATION NUMBER			DIR.	HGT PER	SEA		TYPE	AMT	
31	1089	NW	66360N	168190W		233	68	07	21	057	1967	CC2	069	0035	00	08	3		X2	7	18	0069
						WATER		WIND		BARO-METER (mbs)	AIR TEMP. °C		VIS. CODE	NO. OBS. DEPTHS	SPECIAL OBSERVATIONS							
						COLOR CODE	TRANS. (m)	DIR.	SPEED OR FORCE		DRY BULB	WET BULB										
									19	504	019	078	067	7								
MESSAGE TIME OF HR 1/10	CAST NO.	CARD TYPE	DEPTH (m)	T °C	S ‰	SIGMA-T	SPECIFIC VOLUME ANOMALY-10 ³	Σ Δ ρ DYN. M. X 10 ³	SOUND VELOCITY	O ₂ ml/l	PO ₄ -P μg - at/l	TOTAL-P μg - at/l	NO ₂ -N μg - at/l	NO ₃ -N μg - at/l	SiO ₄ -Si μg - at/l	pH	SCC					
		STD	0000	0867	3013	2338	0045073	0000	14792	683												
	057	OBS	0000	0567	30129	2338			14792	583												
	057	OBS	0005	0868	30126	2338			14793	686												
		STD	0010	0839	3026	2352	0043758	0044	14784	667												
	057	OBS	0010	0839	30255	2352			14784	667												
	057	OBS	0016	0809	30348	2364			14775	667												
		STD	0020	0801	3037	2367	0042398	0087	14773	675												
	057	OBS	0021	0800	30374	2367			14773	676												
	057	OBS	0026	0800	30377	2367			14773	674												

REFERENCE		SHIP CODE	LATITUDE * 1/10	LONGITUDE * 1/10	DRIFT INDICATOR	MARSDEN SQUARE		STATION TIME IGMT			YEAR	ORIGINATOR'S		DEPTH TO BOTTOM	MAX. DEPTH OF S'MPL'S	WAVE OBSERVATIONS				WEA- THER CODE	CLOUD CODES		NODC STATION NUMBER		
CTRY CODE	ID. NO.					10°	1°	MO	DAY	HR./10		CRUISE NO.	STATION NUMBER			DIR	HGT	PER	SEA		TYPE	AMT			
31	1089	NW	66360N	167540W		233	67	07	21	078	1967	CC2	070	0031	00	31	2			X2	6	18	0070		
						WATER		WIND		BARO- METER (mbs)	AIR TEMP. °C		VIS CODE	NO. OBS. DEPTHS	SPECIAL OBSERVATIONS										
						COLOR CODE	TRANS. (m)	DIR.	SPEED OF FORCE		DRY BULB	WET BULB													
									31	509	018	089	078												
MESSNGR TIME HR 1/10	CAST NO.	CARD TYPE	DEPTH (m)	T °C	S ‰	SIGMA-T	SPECIFIC VOLUME ANOMALY- $\times 10^3$	$\Sigma \Delta$ D DYN. M. $\times 10^3$	SOUND VELOCITY	O ₂ ml/l	PO ₄ -P $\mu\text{g} \cdot \text{at/l}$	TOTAL-P $\mu\text{g} \cdot \text{at/l}$	NO ₃ -N $\mu\text{g} \cdot \text{at/l}$	NO ₃ -N $\mu\text{g} \cdot \text{at/l}$	SiO ₄ -Si $\mu\text{g} \cdot \text{at/l}$	pH									
		STD	0000	0785	3047	2377	0041408	0000	14765	696															
078		OBS	0000	0785	30471	2377			14765	696															
078		OBS	0005	0763	30564	2387			14758	692															
		STD	0010	0733	3065	2398	0039439	0040	14748	713															
078		OBS	0010	0733	30646	2398			14748	713															
078		OBS	0016	0728	30685	2401			14748	700															
		STD	0020	0719	3072	2405	0038721	0080	14745	704															
078		OBS	0021	0717	30727	2406			14745	706															
078		OBS	0026	0713	30750	2408			14744	716															

REFERENCE		SHIP CODE	LATITUDE * 1/10	LONGITUDE * 1/10	DRIFT INDICATOR	MARSDEN SQUARE		STATION TIME (GMT)			YEAR	ORIGINATOR'S		DEPTH TO BOTTOM	MAX. DEPTH OF S'MPL'S	WAVE OBSERVATIONS				WEA- THER CODE	CLOUD CODES		NODC STATION NUMBER
CTRY CODE	ID. NO.					10°	1°	MO	DAY	HR./10		CRUISE NO.	STATION NUMBER			DIR	HGT	PER	SEA		TYPE	AMT	
31	1089	NW	66360N	167360W		233	67	07	21	091	1967	CC2	071	0026	00	31	2			X2	5	18	0071
						WATER		WIND		BARO- METER (mbs)	AIR TEMP. °C		VIS. CODE	NO. OBS. DEPTHS	SPECIAL OBSERVATIONS								
						COLOR CODE	TRANS. (m)	DIR.	SPEED OF FORCE		DRY BULB	WET BULB											
									25	505	121	083	078	6									
MESSNGR TIME HR 1/10	CAST NO.	CARD TYPE	DEPTH (m)	T °C	S ‰	SIGMA-T	SPECIFIC VOLUME ANOMALY- $\times 10^3$		$\Sigma \Delta$ D DYN. M. $\times 10^3$	SOUND VELOCITY	O ₂ ml/l	PO ₄ -P $\mu\text{g} \cdot \text{at/l}$	TOTAL-P $\mu\text{g} \cdot \text{at/l}$	NO ₃ -N $\mu\text{g} \cdot \text{at/l}$	NO ₃ -N $\mu\text{g} \cdot \text{at/l}$	SiO ₄ -Si $\mu\text{g} \cdot \text{at/l}$	pH						
		STD	0000	0738	3068	2399	0039275		0000	14749	708												
091		OBS	0000	0738	30675	2399				14749	708												
091		OBS	0005	0717	30742	2407				14742	710												
		STD	0010	0696	3084	2418	0037511		0038	14736	704												
091		OBS	0010	0696	30842	2418				14736	704												
091		OBS	0016	0632	30986	2437				14713	718												
		STD	0020	0592	3116	2456	0033912		0074	14700	725												
091		OBS	0021	0586	31187	2458				14698	727												
091		OBS	0026	0574	31269	2466				14695	718												

REFERENCE		SHIP SQUARE	LATITUDE * 1/10	LONGITUDE * 1/10	DRIFT INDICATOR	MARSDEN SQUARE		STATION TIME (GMT)			YEAR	ORIGINATOR'S		DEPTH TO BOTTOM	MAX. DEPTH OF S'MPL'S	WAVE OBSERVATIONS				WEA- THER CODE	CLOUD CODES		NODC STATION NUMBER
CTRY CODE	IO. NO.					10°	1°	MO	DAY	HR./10		CRUISE NO.	STATION NUMBER			DIR	HGT	PER	SEA		TYPE	AMT	
31	1089	NW	66300N	167120W		233	67	07	21	111	1967	CC2	072	0033	00	31	3			X2	5	18	0072
		WATER		WIND		BARO- METER		AIR TEMP. °C		VIS. CODE	NO. OBS. DEPTHS	SPECIAL OBSERVATIONS											
		COLOR CODE	TRANS. (m)	DIR.	SPEED OF FORCE	(mbs)	(mbs)	DRY BULB	WET BULB														
					03	505	120	089	072	5													
MESSNGR TIME HR 1/10	CAST NO.	CARD TYPE	DEPTH (m)	T °C	S ‰	SIGMA-T	SPECIFIC VOLUME ANOMALY- $\times 10^3$		$\Sigma \Delta$ D DYN. M. $\times 10^3$	SOUND VELOCITY	O ₂ ml/l	PO ₄ -P $\mu\text{g} \cdot \text{at/l}$	TOTAL-P $\mu\text{g} \cdot \text{at/l}$	NO ₃ -N $\mu\text{g} \cdot \text{at/l}$	NO ₃ -N $\mu\text{g} \cdot \text{at/l}$	SiO ₄ -Si $\mu\text{g} \cdot \text{at/l}$	pH						
		STD	0000	0587	3121	2460	0033470		0000	14695	726												
	111	OBS	0000	0587	31209	2460				14695	726												
	111	OBS	0005	0577	31260	2465				14693	727												
		STD	0010	0573	3128	2467	0032798		0033	14692	724												
	111	OBS	0010	0573	31279	2467				14692	724												
	111	OBS	0016	0568	31332	2472				14692	729												
		STD	0020	0569	3139	2476	0031927		0065	14694	729												
	111	OBS	0021	0569	31400	2477				14694	729												
	111	OBS	0026	0570	31436	2480				14696	732												

REFERENCE		SHIP CODE	LATITUDE ° 1/10	LONGITUDE ° 1/10	DRIFT INDICATOR	MARS DEN SQUARE		STATION TIME (GMT)			YEAR	ORIGINATOR'S		DEPTH TO BOTTOM	MAX. DEPTH OF S'MPL'S	WAVE OBSERVATIONS			WEA- THER CODE	CLOUD CODES		NODC STATION NUMBER	
CTRY CODE	ID. NO.					10°	1°	MO	DAY	HR.1/10		CRUISE NO.	STATION NUMBER			DIR	HGT	PER		SEA	TYPE		AMT
31	1089	NW	66300N	167000W		233	67	07	21	126	1967	CC2	073	0040	00	31	1			X1	6	6	0073
						WATER		WIND		BARO- METER (mbs)	AIR TEMP. °C		VIS. CODE	NO. OBS. DEPTHS	SPECIAL OBSERVATIONS								
		COLOR CODE	TRANS. (m)	DIR.	SPEED OF FORCE	DRY BULB		WET BULB															
					31	503	306	089	078	7													
MESSAGE TIME HR 1/10	CAST NO.	CARD TYPE	DEPTH (m)	T °C	S ‰	SIGMA-T		SPECIFIC VOLUME ANOMALY-σ _t		Σ Δ D DYN. M. x 10 ³	SOUND VELOCITY	O ₂ ml/l	PO ₄ -P μg - dl/l	TOTAL-P μg - dl/l	NO ₂ -N μg - dl/l	NO ₃ -N μg - dl/l	SiO ₄ -Si μg - dl/l	pH	S C				
		STD	0000	0642	3111	2445		0034681		0000	14716	713											
126		OBS	0000	0642	31105	2445					14716	713											
126		OBS	0005	0635	31128	2448					14715	718											
		STD	0010	0621	3115	2451		0034324		0035	14710	715											
126		OBS	0010	0621	31148	2451					14710	715											
126		OBS	0016	0600	31208	2458					14703	715											
		STD	0020	0582	3129	2467		0032824		0068	14698	715											
126		OBS	0021	0579	31307	2469					14697	715											
126		OBS	0026	0577	31319	2470					14697	711											

REFERENCE		SHIP CODE	LATITUDE ° 1/10	LONGITUDE ° 1/10	DRIFT INDICATOR	MARS DEN SQUARE		STATION TIME (GMT)			YEAR	ORIGINATOR'S		DEPTH TO BOTTOM	MAX. DEPTH OF S'MPL'S	WAVE OBSERVATIONS			WEA- THER CODE	CLOUD CODES		NODC STATION NUMBER	
CTRY CODE	ID. NO.					10°	1°	MO	DAY	HR.1/10		CRUISE NO.	STATION NUMBER			DIR	HGT	PER		SEA	TYPE		AMT
311	1089	NW	66240N	166240W		233	66	07	21	149	1967	CC2	074	0026	00	31	3		X1	6	6	0074	
		WATER		WIND		BARO- METER (mbs)	AIR TEMP. °C		VIS. CODE	NO. OBS. DEPTHS	SPECIAL OBSERVATIONS												
		COLOR CODE	TRANS. (m)	DIR.	SPEED OF FORCE		DRY BULB	WET BULB															
				01	505	014	094	078	7														
MESSAGE TIME HR 1/10	CAST NO.	CARD TYPE	DEPTH (m)	T °C	S ‰	SIGMA-T	SPECIFIC VOLUME ANOMALY-σ _t	Σ Δ D DYN. M. x 10 ³	SOUND VELOCITY	O ₂ ml/l	PO ₄ -P μg - dl/l	TOTAL-P μg - dl/l	NO ₂ -N μg - dl/l	NO ₃ -N μg - dl/l	SI O ₄ -Si μg - dl/l	pH	S C						
		STD	0000	0848	3052	2372	0041865	0000	14790	682													
149		OBS	0000	0848	30524	2372			14790	682													
149		OBS	0005	0838	30519	2373			14787	682													
		STD	0010	0831	3052	2374	0041666	0042	14785	681													
149		OBS	0010	0831	30521	2374			14785	681													

REFERENCE		SHIP CODE	LATITUDE ° 1/10	LONGITUDE ° 1/10	DRIFT INDICATOR	MARS SQUARE	STATION TIME IGMT				YEAR	ORIGINATOR'S		DEPTH TO BOTTOM	MAX. DEPTH OF S'MPL'S	WAVE OBSERVATIONS				WEA- THER CODE	CLOUD CODES		NODC STATION NUMBER	
CTRY CODE	10. NO.						10°	1°	MO	DAY		HR.1/10	CRUISE NO.			STATION NUMBER	DIR	HGT PER	SEA		TYPE	AMT		
31	1089	NW	68100N	167020W		233	87	07	22	041	1967	BB2	075	0058	01	09	3			X2	7	18		0075
		WATER		WIND		BARO- METER (mbs)	AIR TEMP. °C		VIS. CODE	NO. OBS. DEPTHS	SPECIAL OBSERVATIONS													
		COLOR CODE	TRANS. (m)	DIR.	SPEED OF FORCE		DRY BULB	WET BULB																
				09	514		096	078				032	7											
MESSAGE TIME HR 1/10	CAST NO.	CARD TYPE	DEPTH (m)	T °C	S ‰	SIGMA-T	SPECIFIC VOLUME ANOMALY-σ _t	Σ Δ D DYN. M. x 10 ³	SOUND VELOCITY	O ₂ ml/l	PO ₄ -P μg - dl/l	TOTAL-P μg - dl/l	NO ₂ -N μg - dl/l	NO ₃ -N μg - dl/l	SiO ₄ -Si μg - dl/l	pH	S C							
		STD	0000	1005	2371	1819	0094906	0000	14763	654														
038		OBS	0000	1005	23712	1819			14763	654														
038		OBS	0005	0757	30735	2401			14758	709														
		STD	0010	0476	3125	2475	0032012	0063	14652	712														
038		OBS	0010	0476	31248	2475			14652	712														
038		OBS	0016	0434	31228	2478			14635	718														
		STD	0020	0421	3127	2483	0031321	0095	14631	713														
038		OBS	0021	0420	31292	2485			14631	712														
038		OBS	0026	0428	31445	2496			14637	730														
		STD	0030	0547	3184	2514	0028319	0125	14692	725														
038		OBS	0031	0558	31895	2518			14698	724														
038		OBS	0037	0469	31870	2525			14662	739														
038		OBS	0042	0408	31881	2532			14637	739														
038		OBS	0047	0410	31874	2532			14638	727														
		STD	0050	0411	3188	2532	0026647	0180	14639	734														
038		OBS	0053	0413	31883	2532			14641	751														

REFERENCE	SHIP CODE	LATITUDE 1/10	LONGITUDE 1/10	DEPTH INCH	MARSDEN SQUARE		STATION TIME (GMT)			YEAR	ORIGINATOR'S		DEPTH TO BOTTOM	MAX. DEPTH OF SAMPL'S	WAVE OBSERVATIONS			WEA- THER CODE	CLOUD CODES		NODC STATION NUMBER	
					10"	1"	MO	DAY	HR./1/10		CRUISE NO.	STATION NUMBER			DIR.	HGT	PER		SEA	TYPE		AMT
311089	NW	68110N	167270W		233	87	07	22	058	1967	882 076		0058	00	26	4		X2	7 18		0076	
					WATER		WIND		BARO- METER		AIR TEMP. °C		VIS. CODE		NO. OBS. DEPTHS		SPECIAL OBSERVATIONS					
					COLOR CODE	TRANS. IN	DIR.	SPEED OR FORCE	BARO- METER (mb)	DIR.	WET BULB	WET BULB										
										26	520	096	072	039	8							
MESSNGR TIME HR 1/10	CST NO.	CARD TYPE	DEPTH (m)	T °C	S ‰		SIGMA-T		SPECIFIC VOLUME ANOMALY- σ_{θ}		$\Sigma \Delta \rho$ DYN. M. $\times 10^3$		SOUND VELOCITY		O ₂ ml/l	PO ₄ -P $\mu\text{g} - \text{dl/l}$	TOTAL-P $\mu\text{g} - \text{dl/l}$	NO ₂ -N $\mu\text{g} - \text{dl/l}$	NO ₃ -N $\mu\text{g} - \text{dl/l}$	SiO ₄ -Si $\mu\text{g} - \text{dl/l}$	pH	
		STD	0000	0916	2730		2111		0066875		0000		14774									
	058	OBS	0000	0916	27297		2111						14774									
	058	OBS	0005	0850	30240		2350						14788									
		STD	0010	0776	3163		2469		0032638		0053		14778									
	058	OBS	0010	0776	31632		2469						14778									
	058	OBS	0016	0421	32278		2563						14643									
		STD	0020	0407	3231		2567		0023351		0078		14633									
	058	OBS	0021	0403	32312		2567						14637									
	058	OBS	0026	0383	32321		2570						14630									
		STD	0030	0382	3234		2571		0022900		0101		14630									
	058	OBS	0031	0382	32344		2572						14630									
	058	OBS	0037	0378	32366		2574						14630									
	058	OBS	0042	0380	32433		2579						14632									

REFERENCE		SHIP CODE	LATITUDE 1/10	LONGITUDE 1/10	DEPTH INCH	MARSDEN SQUARE		STATION TIME (GMT)		YEAR	ORIGINATOR'S		DEPTH TO BOTTOM	MAX. DEPTH OF SAMPL'S	WAVE OBSERVATIONS				WEA- THER CODE	CLOUD CODES		NODC STATION NUMBER	
CTRY CODE	IO. NO.					10"	1"	MO	DAY		HR.1/10	CRUISE NO.			STATION NUMBER	DIR.	HGT	PER		SEA	TYPE		AMT
311	1089	NW	68060N	167360W	233	87	07	22	075	1967	8B2	077	0057	00	29	4			X1	8	6	0077	
WATER						WIND		BARO- METER		AIR TEMP. °C		VIS. CODE	NO. OBS. DEPTHS	SPECIAL OBSERVATIONS									
COLOR CODE	TRANS. IN	DIR.	SPEED OR FORCE	BARO- METER (mb)	DIR.	WET BULB	WET BULB	DIR.	WET BULB	DIR.	WET BULB					DIR.	WET BULB	DIR.	WET BULB	DIR.	WET BULB	DIR.	WET BULB
							29	528	106	067	011	8											
MESSNGR TIME HR 1/10	CST NO.	CARD TYPE	DEPTH (m)	T °C	S ‰	SIGMA-T	SPECIFIC VOLUME ANOMALY-σ _t	Σ Δ ρ DYN. M. x 10 ³	SOUND VELOCITY	O ₂ ml/l	PO ₄ -P μg - dl/l	TOTAL-P μg - dl/l	NO ₂ -N μg - dl/l	NO ₃ -N μg - dl/l	SiO ₄ -Si μg - dl/l	pH	S C						
		STD	0000	0814						709													
	075	OBS	0000	0814						709													
	075	OBS	0005	0781	31616	2467			14779	716													
		STD	0010	0758	3166	2474	0032191		14771	719													
	075	OBS	0010	0758	31660	2474			14771	719													
	075	OBS	0016	0583	32319	2548			14711	8432													
		STD	0020	0501	3260	2580	0022110		14682														
	075	OBS	0021	0479	32648	2586			14674	8700													
	075	OBS	0026	0355	32741	2606			14623	726													
		STD	0030	0331	3279	2612	0019049		14614	679													
	075	OBS	0031	0325	32805	2614			14612	667													
	075	OBS	0037	0468	32300	25600				829													
	075	OBS	0042	0388	32640	25950				879													

REFERENCE		SHIP CODE	LATITUDE 1/10	LONGITUDE 1/10	DEPTH INCH	MARSDEN SQUARE		STATION TIME (GMT)				YEAR	ORIGINATOR'S		DEPTH TO BOTTOM	MAX. DEPTH OF SAMPL'S	WAVE OBSERVATIONS			WEA- THER CODE	CLOUD CODES		NODC STATION NUMBER					
CTRY CODE	IO. NO.					10"	1"	MO	DAY	HR./10	CRUISE NO.		STATION NUMBER	DIR.			HGT	PER	SEA		TYPE	AMT						
311	089	NW	67540N	168000W		233	78	07	22	096	1967	BB2	078	0058	00	30	4			X2	6	8	0078					
						WATER		WIND		BARO- METER	AIR TEMP. °C		VIS. CODE	NO. OBS. DEPTHS	SPECIAL OBSERVATIONS													
		COLOR CODE	TRANS. IN	DIR.	SPEED OR FORCE	BARO- METER (mb)	DIR.	WET BULB	WET BULB	7																		
						30	525	126	056	017	7																	
MESSNGR TIME HR 1/10	CST NO.	CARD TYPE	DEPTH (m)	T °C	S ‰	SIGMA-T	SPECIFIC VOLUME ANOMALY- σ_{θ}		$\Sigma \Delta \rho$ DYN. M. $\times 10^3$	SOUND VELOCITY	O ₂ ml/l	PO ₄ -P $\mu\text{g} - \text{dl/l}$	TOTAL-P $\mu\text{g} - \text{dl/l}$	NO ₂ -N $\mu\text{g} - \text{dl/l}$	NO ₃ -N $\mu\text{g} - \text{dl/l}$	SiO ₄ -Si $\mu\text{g} - \text{dl/l}$	pH	S C										
		STD	0000	0721	3182	2491	0030518		0000	14757	697																	
	096	OBS	0000	0721	31818	2491				14757	697																	
	096	OBS	0005	0723	31838	2492				14759	762																	
		STD	0010	0585	3228	2544	0025463		0028	14710	753																	
	096	OBS	0010	0585	32275	2544				14710	8670																	
	096	OBS	0016	0453	32595	2584				14661	8630																	
		STD	0020	0419	3262	2590	0021130		0051	14648	735																	
	096	OBS	0021	0411	32623	2591				14645	733																	
	096	OBS	0026	0377	32605	2593				14631	701																	
		STD	0030	0389	3264	2594	0020702		0072	14637	685																	
	096	OBS	0031	0390	32641	2594				14638	681																	
	096	OBS	0037	0383	32638	2595				14636	662																	
	096	OBS	0042	0374	32628	2595				14633	653																	
	096	OBS	0047	0341	32608	2596				14619	615																	

REFERENCE		SHIP CODE	LATITUDE ° 1/10	LONGITUDE ° 1/10	DRAFT METER	MARS SQUARE		STATION TIME (GMT)				YEAR	ORIGINATOR'S		DEPTH TO BOTTOM	MAX. DEPTH OF SAMPL'S	WAVE OBSERVATIONS			WEA- THER CODE	CLOUD CODES		NODC STATION NUMBER							
CTRY CODE	ID. NO.					10"	1"	MO	DAY	HR.1/10	CRUISE NO.		STATION NUMBER	DIR.			HGT	PER	SEA		TYPE	AMT								
						10"	1"	MO	DAY	HR.1/10		CRUISE NO.												STATION NUMBER	DIR.	HGT	PER	SEA	TYPE	AMT
311089		NW	67200N	170200W		234	70	07	22	223	1967	882	083		0046	00	35				X1	6	6		0082					
						WATER		WIND		BARO- METER (mb)	AIR TEMP. °C		VIS. CODE	NO. OBS. DEPTHS	SPECIAL OBSERVATIONS															
						COLOR CODE	TRANS. (m)	DIR.	SPEED OR FORCE		DRY BULB	WET BULB																		
									22	506	198	083	044	8																
MESSAGE TIME HR 1/10	CAST NO.	CARD TYPE	DEPTH (m)	T °C	S ‰	SIGMA-T	SPECIFIC VOLUME ANOMALY- σ_t		$\Sigma \Delta$ D DYN. M. $\times 10^3$	SOUND VELOCITY	O ₂ ml/l	PO ₄ -P $\mu\text{g} \cdot \text{at/l}$	TOTAL-P $\mu\text{g} \cdot \text{at/l}$	NO ₂ -N $\mu\text{g} \cdot \text{at/l}$	NO ₃ -N $\mu\text{g} \cdot \text{at/l}$	SiO ₄ -Si $\mu\text{g} \cdot \text{at/l}$	pH	S C												
		STD	0000	0633	3280	2580	0022092		0000	14735	760																			
223		OBS	0000	0633	32799	2580				14735	780																			
223		OBS	0005	0633	32798	2580				14736	789																			
		STD	0010	0630	3280	2580	0022075		0022	14735	769																			
223		OBS	0010	0630	32798	2580				14735	769																			
223		OBS	0016	0605	32796	2583				14726	794																			
		STD	0020	0397	3284	2610	0019263		0043	14642	834																			
223		OBS	0021	0367	32854	2614				14629	844																			
223		OBS	0026	0345	32942	2623				14622	701																			
		STD	0030	0344	3303	2630	0017555		0061	14625	674																			
223		OBS	0031	0344	33040	2631				14623	664																			
223		OBS	0037	0310	33068	2636				14611	584																			

REFERENCE		SHIP CODE	LATITUDE ° 1/10	LONGITUDE ° 1/10	MARS SQUARE	STATION TIME (GMT)					YEAR	ORIGINATOR'S		DEPTH TO BOTTOM	MAX. DEPTH OF SAMPL'S	WAVE OBSERVATIONS			WEA- THER CODE	CLOUD CODES		NODC STATION NUMBER								
CTRY CODE	ID. NO.											CRUISE NO.	STATION NUMBER								TYPE		AMT							
	10"					1"	MO	DAY	HR.1/10																					
311089		NW	67130N	170480W	234	70	07	23	014	1967	882	083		0055	00	31	1			X1	7	6	0083							
						WATER		WIND		BARO- METER (mb)		AIR TEMP. °C		VIS. CODE	NO. OBS. DEPTHS	SPECIAL OBSERVATIONS														
						COLOR CODE	TRANS. (m)	DIR.	SPEED OR FORCE		DRY BULB	WET BULB																		
								36		506	212	089	056	8																
MESSAGE TIME HR 1/10	CAST NO.	CARD TYPE	DEPTH (m)	T °C	S ‰	SIGMA-T		SPECIFIC VOLUME ANOMALY- σ_t		$\Sigma \Delta$ D DYN. M. $\times 10^3$	SOUND VELOCITY	O ₂ ml/l	PO ₄ -P $\mu\text{g} \cdot \text{at/l}$	TOTAL-P $\mu\text{g} \cdot \text{at/l}$	NO ₂ -N $\mu\text{g} \cdot \text{at/l}$	NO ₃ -N $\mu\text{g} \cdot \text{at/l}$	SiO ₄ -Si $\mu\text{g} \cdot \text{at/l}$	pH	S C											
		STD	0000	0710	3279	2569		0023149		0000	14765	776																		
014		OBS	0000	0710	32780	2569					14765	776																		
014		OBS	0005	0655	32794	2576					14745	784																		
		STD	0010	0639	3278	2578		0022288		0023	14739	784																		
014		OBS	0010	0639	32784	2578					14739	784																		
014		OBS	0016	0626	32810	2581					14735	816																		
		STD	0020	0440	3296	2615		0018777		0043	14661	838																		
014		OBS	0021	0409	32982	2620					14649	844																		
014		OBS	0026	0343	33048	2631					14622	660																		
		STD	0030	0291	3306	2637		0016571		0061	14601	556																		
014		OBS	0031	0274	33070	2639					14594	546																		
014		OBS	0037	0136	33238	2661					14536	619																		

Table III.—Direct current measurements, USCGC NORTHWIND (WAGB 282), 14–23 July 1967, prepared by University of Washington, Department of Oceanography. Figure in parentheses represents corresponding station number in Table II. Time is given in Greenwich Mean Time, Depth in meters, Speed in centimeters/second, and Direction in degrees true.

Station 1 (11) Date: 14–vii–67				Station 3 (12) Date: 14–vii–67			
Lat: 65°42.0'N Long: 169°54.0'W				Lat: 65°42.0'N Long: 169°48.0'W			
Time	m Depth	Speed	cm/sec Direction	Time	m Depth	Speed	cm/sec Direction
0235	5	30	328	0359	5	—	—
	10	8	352		10	11	344
	15	0			15	23	004
	20	0			20	29	015
	25	9	040		25	26	024
	30	18	039		30	20	039
	35	20	040		35	16	046
0243	39	17	045	0407	40	11	045
	35	15	045		35	21	038
	30	14	060		30	27	031
	25	15	055		25	25	025
	20	15	057		20	21	025
	15	16	031		15	17	007
	10	16	354		10	16	337
0250	5	22	317	0415	5	18	331

Station 3 (13) Date: 14–vii–67				Station 4 (14) Date: 14–vii–67			
Lat: 65°36.0'N Long: 169°42.0'W				Lat: 65°38.0'N Long: 169°36.0'W			
Time	m Depth	Speed	cm/sec Direction	Time	m Depth	Speed	cm/sec Direction
0505	5	34	042	0642	5	28	028
	10	31	025		10	34	028
	15	28	010		15	38	019
	20	29	005		20	39	009
	25	29	001		24	38	001
	29	30	354		29	34	357
	34	27	353		33	30	354
	38	27	350		39	25	348
	34	31	352		34	26	351
	29	33	350		29	—	354
	24	34	354		24	36	005
	20	33	009		19	—	353
	15	33	023		15	35	021
	10	29	046		10	29	028
0535	5	39	077	0656	5	33	033

Station 5 (15)
Date: 14-vii-67

Lat: 65°34.0'N
Long: 169°25.0'W

Time	m Depth	Speed cm/sec	Direction
0830	5	39	048
	10	40	031
	15	43	017
	19	44	360
	24	42	351
	28	38	342
	32	38	215
	37	41	350
	32	39	354
	28	45	354
	23	46	001
	19	45	005
	14	47	021
	10	44	043
0841	5	42	075

Station 7 (18)
Date: 14-vii-67

Lat: 65°38.0'N
Long: 168°50.0'W

Time	m Depth	Speed cm/sec	Direction
1335	5	56	201
	10	52	210
	14	51	031
	18	46	047
	23	39	051

Station 9 (23)
Date: 15-vii-67

Lat: 66°24.0'N
Long: 166°24.0'W

Time	m Depth	Speed cm/sec	Direction
0611	5	30	130
	9	22	146
0615	5	20	157

Station 6 (16)
Date: 14-vii-67

Lat: 65°32.3'N
Long: 169°16.2'W

Time	m Depth	Speed cm/sec	Direction
1012	5	44	037
	10	46	024
	14	45	013
	19	43	007
	24	41	358
	28	36	354
	33	28	354
	28	40	339
	23	37	348
	19	44	358
	14	45	013
	10	—	026
1024	5	51	070

Station 8 (19)
Date: 14-vii-67

Lat: 65°38.0'N
Long: 168°40.0'W

Time	m Depth	Speed cm/sec	Direction
1525	5	64	009
	19	62	079

Station 10 (24)
Date: 15-vii-67

Lat: 66°32.0'N
Long: 166°58.0'W

Time	m Depth	Speed cm/sec	Direction
0843	5	21	019
	10	27	330
	15	22	340
	20	28	342
	25	31	342
	30	33	043
	25	25	—
	19	31	344
	15	25	298
	10	16	282
0855	5	40	288

Station 11 (25)		Lat: 66°35.0'N	
Date: 15-vii-67		Long: 167°14.0'W	
Time	m Depth	Speed cm/sec	Direction
1003	5	25	094
	10	33	098
	15	33	098
	19	39	128
	15	39	104
	10	44	104
	5	28	—

Station 13 (27)		Lat: 66°36.2'N	
Date: 15-vii-67		Long: 167°56.0'W	
Time	m Depth	Speed cm/sec	Direction
1345	5	36	104
	10	46	106
	15	39	112
	20	21	120
	15	23	137
	10	27	127
	5	22	177
	2	24	—

Station 15 (29)		Lat: 66°36.0'N	
Date: 15-vii-67		Long: 168°49.0'W	
Time	m Depth	Speed cm/sec	Direction
1750	5	28	350
	10	23	084
	15	28	110
	20	33	114
	24	34	110
	29	33	109
	34	28	110
	30	29	096
	25	41	046
	19	47	037
	15	47	018
	10	45	306
	5	39	350
1802	2	21	215

Station 12 (26)		Lat: 66°35.0'N	
Date: 15-vii-67		Long: 167°38.2'W	
Time	m Depth	Speed cm/sec	Direction
1210	5	23	106
	10	26	109
	15	22	105
	10	27	—
	5	33	—

Station 14 (28)		Lat: 66°35.0'N	
Date: 15-vii-67		Long: 168°20.0'W	
Time	m Depth	Speed cm/sec	Direction
1555	5	24	341
	10	30	335
	15	18	059
	20	11	067
	25	13	063
	30	18	071
	25	19	044
	20	15	003
	15	16	313
	10	23	297
	5	27	349
	2	37	327

Station 16 (30)		Lat: 66°30.0'N	
Date: 15-vii-67		Long: 169°12.0'W	
Time	m Depth	Speed cm/sec	Direction
1900	5	20	321
	10	29	036
	15	28	073
	20	31	084
	25	31	102
	29	25	094
	34	27	098
	38	26	099
	43	23	099
	39	25	068
	34	26	088
	30	25	055
	25	24	047
	20	25	037
	15	25	031
	10	33	006
	5	31	349
	2	35	—

Station 17 (31)
Date: 15-vii-67

Lat: 66°24.0'N
Long: 169°30.0'W

Time	m Depth	Speed cm/sec	Direction
2140	5	38	306
	10	35	354
	15	31	021
	20	34	036
	25	32	040
	30	29	046
	35	25	051
	40	14	064
	45	14	098
	40	21	066
	35	27	091
	30	31	068
	25	32	091
	20	34	066
	15	31	051
	10	23	013
	5	25	344

Station 19 (33)
Date: 16-vii-67

Lat: 67°05.0'N
Long: 171°11.0'W

Time	m Depth	Speed cm/sec	Direction
0645	5	33	275
	10	27	253
	15	43	240
	20	44	253
	25	43	271
	30	38	297
	35	31	327
	40	24	354
	35	18	025
	30	18	012
	25	23	003
	20	24	348
	15	20	349
	10	37	301
	5	43	287

Station 18 (32)
Date: 15-vii-67

Lat: 66°24.0'N
Long: 169°42.0'W

Time	m Depth	Speed cm/sec	Direction
2319	5	39	290
	10	29	309
	15	20	065
	20	14	048
	25	16	049
	30	16	095
	35	14	095
	40	16	119
	35	25	119
	30	21	109
	25	20	090
	20	21	065
	15	18	033
	10	31	301
	5	41	290

Station 20 (35)
Date: 16-vii-67

Lat: 67°21.0'N
Long: 170°21.0'W

Time	m Depth	Speed cm/sec	Direction
1045	5	<5	317
	10	8	307
	15	9	335
	20	<5	008
	25	<5	055
	30	9	055
	25	7	047
	20	8	041
	15	11	—
	10	10	—
	5	12	—
	2	9	338

Station 21 (36)
Date: 16-vii-67

Lat: 67°30.6'N
Long: 169°54.0'W

Time	m Depth	Speed cm/sec	Direction
1310	5	21	
	10	22	
	15	20	
	20	14	
	25	11	
	30	13	
	35	14	ships
	40	13	heading
	35	15	155°
	30	15	
	25	5	
	20	9	
	15	11	
	10	14	
1325	5	16	

Station 23 (39)
Date: 16-vii-67

Lat: 67°54.0'N
Long: 168°06.0'W

Time	m Depth	Speed cm/sec	Direction
2100	5	26	239
	10	27	049
	15	29	047
	20	29	049
	24	25	037
	29	26	045
	34	22	039
	39	22	039
	43	22	039
	39	31	035
	34	31	041
	29	30	037
	24	31	035
	20	29	035
	15	28	034
	10	22	017
	5	21	207

Station 22 (38)
Date: 16-vii-67

Lat: 67°48.0'N
Long: 168°30.0'W

Time	m Depth	Speed cm/sec	Direction
1945	5	10	164
	10	12	131
	15	18	054
	20	13	044
	25	12	036
	30	12	036
	35	11	036
	40	16	034
	35	16	034
	30	19	032
	25	15	036
	20	15	041
	15	21	051
	10	18	146
1959	5	18	146

Station 24 (40)
Date: 17-vii-67

Lat: 68°30.0'N
Long: 167°36.0'W

Time	m Depth	Speed cm/sec	Direction
0006	5	25	252
	10	27	072
	15	29	072
	20	37	072
	25	36	047
	29	42	047
	34	39	077
	39	37	067
	34	47	059
	29	48	050
	24	49	051
	20	39	055
	15	23	052
	10	25	052
	5	15	207

Station 25 (41)
Date: 17-vii-67

Lat: 68°06.0'N
Long: 167°18.0'W

Time	m Depth	Speed cm/sec	Direction
0222	5	32	242
	10	23	221
	15	30	111
	20	36	041
	24	37	037
	29	32	043
	34	27	043
	29	30	037
	24	45	041
	20	39	030
	15	25	132
	10	23	217
0235	5	29	222

Station 28 (44)
Date: 18-vii-67

Lat: 65°00.0'N
Long: 167°48.0'W

Time	m Depth	Speed cm/sec	Direction
0600	5	45	336
	10	33	340
	15	29	014
	20	28	029
	24	30	041
	29	31	041
	34	23	056
	29	32	049
	24	38	048
	19	39	036
	15	32	028
	10	34	350
0612	5	47	336

Station 26 (42)
Date: 17-vii-67

Lat: 68°12.0'N
Long: 167°18.0'W

Time	m Depth	Speed cm/sec	Direction
0400	5	26	147
	10	34	077

Station 27 (43)
Date: 18-vii-67

Lat: 65°5.00'N
Long: 167°31.0'W

Time	m Depth	Speed cm/sec	Direction
0410	5	36	335
	10	42	007
	14	43	013
	18	55	024
	14	57	011
	10	54	352
0416	5	41	332
	2	36	346

Station 29 (45)
Date: 18-vii-67

Lat: 64°54.0'N
Long: 168°18.0'W

Time	m Depth	Speed cm/sec	Direction
0810	5	6	145
	10	19	241
	15	16	349
	20	22	351
	25	21	016
	30	16	028
	35	12	048
	40	8	077
	35	7	054
	30	10	359
	25	14	353
	20	13	345
	15	13	332
	10	10	275
0846	5	8	215

Station 30 (46)
Date: 18-vii-67

Lat: 64°54.0'N
Long: 168°36.0'W

Time	m Depth	Speed cm/sec	Direction
1002	5	5	245
	10	15	240
	15	15	240
	20	8	285
	25	9	323
	30	9	005
	35	7	031
	40	12	037
	35	17	017
	30	22	009
	25	20	002
	20	18	355
	15	18	339
	10	9	325
	5	10	309

Station 32 (48)
Date: 18-vii-67

Lat: 64°48.0'N
Long: 169°36.0'W

Time	m Depth	Speed cm/sec	Direction
1425	5	7	344
	10	7	300
	15	8	354
	20	6	030
	25	<5	024
	30	<5	007
	35	5	007
	40	<5	009
	35	<5	029
	30	<5	029
	25	<5	039
	20	6	042
	15	5	044
	10	<5	044
1450	5	6	309

Station 31 (47)
Date: 18-vii-67

Lat: 64°54.0'N
Long: 169°00.0'W

Time	m Depth	Speed cm/sec	Direction
1207	5	0	—
	10	8	328
	15	13	334
	20	17	324
	25	19	310
	30	17	314
	35	18	310
	40	16	310
	35	22	308
	30	20	308
	25	18	308
	20	16	316
	15	6	344
	10	9	347
1219	5	13	324

Station 33 (49)
Date: 18-vii-67

Lat: 64°48.0'N
Long: 170°12.0'W

Time	m Depth	Speed cm/sec	Direction
1701	5	<5	—
	10	<5	—
	15	<5	—
	20	<5	—
	25	<5	—
	30	<5	—
	35	<5	—
	40	8	018
	35	10	350
	30	11	336
	25	10	326
	20	9	324
	15	8	319
	10	7	319
1714	5	7	314

Station 34 (50)
Date: 18-vii-67

Lat: 64°54.0'N
Long: 170°39.0'W

Time	m Depth	Speed cm/sec	Direction
1941	5	15	179
	10	8	017
	15	6	161
	20	<5	157
	25	5	154
	30	6	124
	25	10	244
	20	9	011
	15	7	011
	10	10	284
1952	5	13	284

Station 36 (52)
Date: 19-vii-67

Lat: 65°00.0'N
Long: 171°36.0'W

Time	m Depth	Speed cm/sec	Direction
~9010	5	21	232
	10	31	232
	15	21	201
	20	13	131
	25	11	121
	30	13	123
	35	14	117
	30	16	106
	25	16	121
	20	10	121
	15	15	151
	10	6	217
0019	5	7	223

Station 35 (51)
Date: 18-vii-67

Lat: 64°54.0'N
Long: 171°20.0'W

Time	m Depth	Speed cm/sec	Direction
2215	5	12	039
	10	10	210
	15	9	256
	20	10	334
	25	11	360
	30	11	008
	35	10	011
	30	15	360
	25	15	356
	20	14	356
	15	10	345
	10	5	341
2226	5	8	—

Station 37 (53)
Date: 19-vii-67

Lat: 65°42.0'N
Long: 169°54.0'W

Time	m Depth	Speed cm/sec	Direction
0955	5	7	280
	10	5	345
	15	9	331
	20	7	325
	25	6	295
	30	5	235
	35	6	235
	40	5	230
	35	14	190
	30	14	190
	25	10	198
	20	6	223
	15	7	230
	10	<5	275
1010	5	8	255

Station 38 (54)
Date: 19-vii-67

Lat: 65°42.0'N
Long: 169°48.0'W

Time	m Depth	Speed cm/sec	Direction
1116	5	19	240
	10	12	275
	15	5	330
	20	5	348
	25	7	348
	30	5	348
	35	0	269
	40	13	240
	35	8	219
	30	10	168
	25	15	205
	20	8	235
	15	6	263
	10	7	280
	5	7	265

Station 40 (56)
Date: 19-vii-67

Lat: 65°36.0'N
Long: 169°36.0'W

Time	m Depth	Speed cm/sec	Direction
1417	5	27	232
	10	39	219
	15	39	178
	20	29	159
	25	25	155
	30	21	155
	34	20	153
	39	18	146
	44	14	146
	39	15	151
	35	9	151
	30	8	165
	25	9	200
	20	<5	251
	15	<5	335
	10	6	320
1432	5	8	305

Station 39 (55)
Date: 19-vii-67

Lat: 65°36.0'N
Long: 169°42.0'W

Time	m Depth	Speed cm/sec	Direction
1250	5	10	285
	10	13	345
	15	5	333
	20	7	025
	25	31	131
	30	29	149
	34	25	149
	40	20	151
	35	14	149
	30	12	141
	25	7	130
	20	6	130
	15	5	200
	10	0	225
1305	5	7	325

Station 41 (57)
Date: 19-vii-67

Lat: 65°30.0'N
Long: 169°24.0'W

Time	m Depth	Speed cm/sec	Direction
1550	5	15	223
	10	16	195
	15	13	158
	20	8	145
	25	5	133
	30	6	148
	35	0	195
	40	5	093
	35	5	238
	30	5	222
	25	6	222
	20	7	222
	15	7	255
	10	5	230
1603	5	8	350

Station 42 (58)
Date: 19-vii-67

Lat: 65°30.0'N
Long: 169°12.0'W

Time	m Depth	Speed cm/sec	Direction
1708	5	10	234
	10	13	223
	15	28	163
	20	22	133
	25	15	129
	30	9	144
	35	7	143
	30	6	123
	25	9	115
	20	15	113
	15	15	148
	10	12	163
1722	5	10	197
	2	12	—

Station 43 (59)
Date: 19-vii-67

Lat: 65°32.0'N
Long: 169°02.0'W

Time	m Depth	Speed cm/sec	Direction
1932	5	23	256
	10	23	220
	15	25	192
	20	20	171
	25	18	159
	30	18	152
	35	17	152
	40	16	152
	45	15	152
	40	18	152
	35	20	153
	30	16	159
	25	8	173
	20	6	211
1948	15	0	—
	10	0	288
	5	6	240
	2	13	—

Station 44 (60)
Date: 19-vii-67

Lat: 65°37.0'N
Long: 168°49.0'W

Time	m Depth	Speed cm/sec	Direction
2045	5	26	242
	10	21	238
	15	15	181
	20	18	163
	25	15	163
	30	12	159
	35	11	163
	40	8	163
	45	11	174
	40	7	174
	35	7	166
	30	6	166
	25	7	180
	20	0	223
	15	6	135
	10	7	135
2100	5	6	—
	2	28	—

Station 45 (61)
Date: 19-vii-67

Lat: 65°38.0'N
Long: 168°40.0'W

Time	m Depth	Speed cm/sec	Direction
2211	5	29	261
	10	25	245
	15	22	137
	20	15	137
	25	24	144
	30	23	148
	35	20	159
	40	18	166
	45	17	166
	40	10	166
	35	7	155
	30	0	166
	25	0	152
	20	8	350
2226	15	8	339
	10	13	170
	5	11	174
	2	16	—

Station 46 (62)
Date: 19-vii-67

Lat: 65°38.0'N
Long: 168°34.0'W

Time	m Depth	Speed cm/sec	Direction
2330	5	26	336
	10	23	360
	15	15	358
	20	13	356
	25	8	100
	30	6	146
	35	7	146
	39	10	124
	45	13	146
	40	13	136
	35	13	131
	30	11	115
	25	9	077
	20	13	061
	15	15	033
	10	32	017
2345	5	42	339
	2	27	—

Station 48 (64)
Date: 20-vii-67

Lat: 65°38.0'N
Long: 168°18.0'W

Time	m Depth	Speed cm/sec	Direction
0155	5	26	110
	10	38	107
	15	42	096
	20	33	095
	25	38	088
	30	27	088
	35	28	099
	40	36	148
	35	30	104
	30	32	096
	25	36	088
	20	33	085
	15	39	077
	10	36	077
0210	5	25	065
	2	23	—

Station 47 (63)
Date: 20-vii-67

Lat: 65°38.0'N
Long: 168°26.0'W

Time	m Depth	Speed cm/sec	Direction
0130	5	24	306
	10	51	358
	14	47	017
	19	33	020
	24	23	028
	29	11	079
	34	8	134
	39	13	134
	44	21	168
	39	19	154
	34	11	153
	29	9	150
	25	14	074
	19	23	048
	15	36	032
0145	10	44	045
	5	26	321
	2	33	—

Station 49 (65)
Date: 20-vii-67

Lat: 66°25.0'N
Long: 169°45.0'W

Time	m Depth	Speed cm/sec	Direction
1910	5	26	117
	10	14	169
	15	21	189
	20	21	189
	25	18	199
	30	16	197
	35	15	201
	40	13	200
	45	8	211
	40	13	215
	35	14	201
	30	12	200
	25	14	199
	20	13	173
	15	18	173
	10	13	092
	5	8	052
1919			

Station 50 (66)
Date: 20-vii-67

Lat: 66°27.0'N
Long: 169°32.0'W

Time	m Depth	Speed	cm/sec Direction
2125	5	13	185
	10	9	211
	15	7	232
	20	5	155
	25	6	185
	30	7	195
	35	6	195
	40	6	215
	45	6	245
	40	9	205
	35	7	205
	30	8	195
	25	9	195
	20	6	165
	15	5	145
	10	8	125
2145	5	17	180
	2	13	—

Station 52 (68)
Date: 21-vii-67

Lat: 66°36.0'N
Long: 168°48.0'W

Time	m Depth	Speed	cm/sec Direction
0325	5	6	151
	10	9	226
	15	7	208
	20	7	261
	25	9	286
	30	8	286
	35	9	306
	40	9	316
	35	10	306
	30	14	286
	25	16	286
	20	16	281
	15	13	266
	10	13	296
0337	5	9	296
	2	9	—

Station 51 (67)
Date: 20-vii-67

Lat: 66°33.0'N
Long: 169°12.0'W

Time	m Depth	Speed	cm/sec Direction
2345	5	14	286
	10	12	286
	15	13	286
	20	10	256
	25	13	271
	30	10	271
	35	12	271
	40	12	271
	35	13	271
	30	7	271
	25	14	271
	20	10	266
	15	7	276
2357	10	9	276
	5	13	276
	2	26	—

Station 53 (69)
Date: 21-vii-67

Lat: 66°36.0'N
Long: 168°19.0'W

Time	m Depth	Speed	cm/sec Direction
0536	5	28	017
	10	39	007
	15	32	296
	19	32	367
	25	27	257
	20	27	267
	15	27	327
	10	25	022
	5	25	037

Station 54 (70)
Date: 21-vii-67

Lat: 66°36.0'N
Long: 167°54.0'W

Time	m Depth	Speed cm/sec	Direction
0740	5	7	017
	10	18	015
	15	19	005
	20	27	312
	25	15	312
	20	18	317
	15	16	322
	10	14	337
0754	5	14	052

Station 56 (72)
Date: 21-vii-67

Lat: 66°30.0'N
Long: 167°12.0'W

Time	m Depth	Speed cm/sec	Direction
1100	5	10	068
	10	9	011
	15	11	317
	20	14	328
	25	14	294
	20	14	302
	15	13	298
	10	12	338
1110	5	12	013

Station 58 (74)
Date: 21-vii-67

Lat: 66°24.0'N
Long: 166°24.0'W

Time	m Depth	Speed cm/sec	Direction
1446	5	14	223
	10	10	182
	5	13	288

Station 55 (71)
Date: 21-vii-67

Lat: 66°36.0'N
Long: 167°36.0'W

Time	m Depth	Speed cm/sec	Direction
0910	5	7	140
	10	7	140
	15	8	027
	20	21	027
	25	12	027
	20	34	062
	15	30	075
	10	24	102
0920	5	19	102

Station 57 (73)
Date: 21-vii-67

Lat: 66°30.0'N
Long: 167°00.0'W

Time	m Depth	Speed cm/sec	Direction
1228	5	16	020
	10	16	003
	15	5	328
	20	20	303
	25	18	273
	20	18	308
	15	12	321
	10	10	344
1242	5	9	052

Station 59 (75)
Date: 22-vii-67

Lat: 68°10.0'N
Long: 167°02.0'W

Time	m Depth	Speed cm/sec	Direction
0345	5	10	093
	10	15	093
	15	14	288
	20	12	338
	25	12	318
	30	8	068
	35	<5	258
	40	6	218
	44	<5	228
	40	9	263
	35	10	278
	30	8	268
	25	11	278
	20	18	283
	15	15	283
	10	14	308
	5	9	094
	2	7	—

Station 61 (77)
Date: 22-vii-67

Lat: 68°06.0'N
Long: 167°36.0'W

Time	m Depth	Speed cm/sec	Direction
0710	5	9	087
	10	6	087
	15	9	287
	20	9	297
	25	11	287
	30	8	287
	35	9	277
	40	7	275
	35	8	275
	30	10	277
	25	9	285
	20	12	287
	15	14	287
	10	10	102
0724	5	7	197

Station 60 (76)
Date: 22-vii-67

Lat: 68°11.0'N
Long: 167°27.0'W

Time	m Depth	Speed cm/sec	Direction
0530	5	10	057
	10	13	007
	15	14	305
	20	9	305
	25	9	282
	30	9	282
	35	8	282
	30	5	287
	25	0	—
	20	6	287
	15	0	—
	10	0	—
0546	5	7	087

Station 62 (78)
Date: 22-vii-67

Lat: 67°54.0'N
Long: 168°00.0'W

Time	m Depth	Speed cm/sec	Direction
0927	5	14	107
	10	20	112
	15	9	167
	20	7	217
	25	7	214
	30	8	262
	35	9	287
	40	8	277
	45	8	277
	40	10	287
	35	9	282
	30	8	287
	25	9	287
	20	10	287
	15	13	282
	10	6	102
0940	5	10	102

Station 63 (79)
Date: 22-vii-67

Lat: 67°48.0'N
Long: 168°30.0'W

Time	m Depth	Speed cm/sec	Direction
1135	5	11	026
	10	5	086
	15	12	106
	20	9	076
	25	7	086
	30	8	066
	35	6	016
	40	9	286
	45	7	286
	40	17	286
	35	10	286
	30	6	076
	25	8	076
	20	8	106
	15	10	106
	10	8	106
1150	5	9	096

Station 65 (82)
Date: 22-vii-67

Lat: 67°20.0'N
Long: 170°20.0'W

Time	m Depth	Speed cm/sec	Direction
2220	5	6	159
	10	0	
	15	0	
	20	6	145
	25	0	
	30	5	180
	35	0	
	30	0	
	25	0	
	20	5	065
	15	0	
	10	0	
2230	5	7	165
	2	8	—

Station 64 (81)
Date: 22-vii-67

Lat: 67°30.0'N
Long: 169°56.0'W

Time	m Depth	Speed cm/sec	Direction
1920	5	9	185
	10	10	185
	15	9	165
	20	7	165
	25	8	105
	30	6	080
	35	6	080
	40	5	065
	35	6	015
	30	<5	320
	25	<5	330
	20	<5	005
	15	<5	205
	10	5	165
1935	5	6	165

Station 66 (83)
Date: 23-vii-67

Lat: 67°13.0'N
Long: 170°48.0'W

Time	m Depth	Speed cm/sec	Direction
0120	5	8	195
	10	5	085
	15	6	065
	20	6	070
	25	8	095
	30	6	105
	35	0	
	30	0	
	25	0	
	20	0	
	15	0	
	10	5	039
	5	6	021
	2	7	—

